Cateye ergociser

CATEYE ERGOCISER

MANUAL LOAD-CHANGE TYPE

Applicable Models: EC-3200/EC-3500

SERVICE MANUAL

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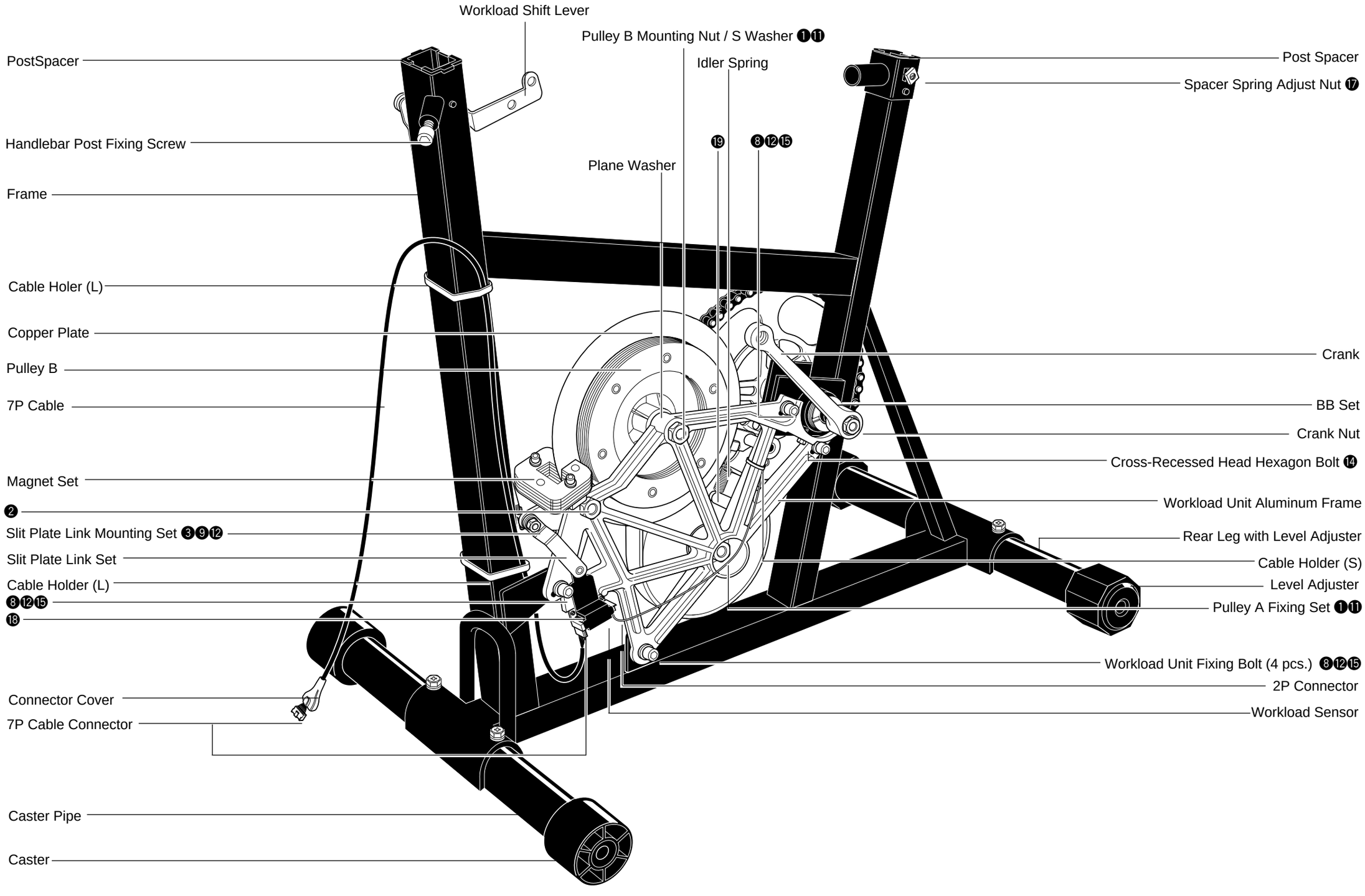
How to Use This Service Manual

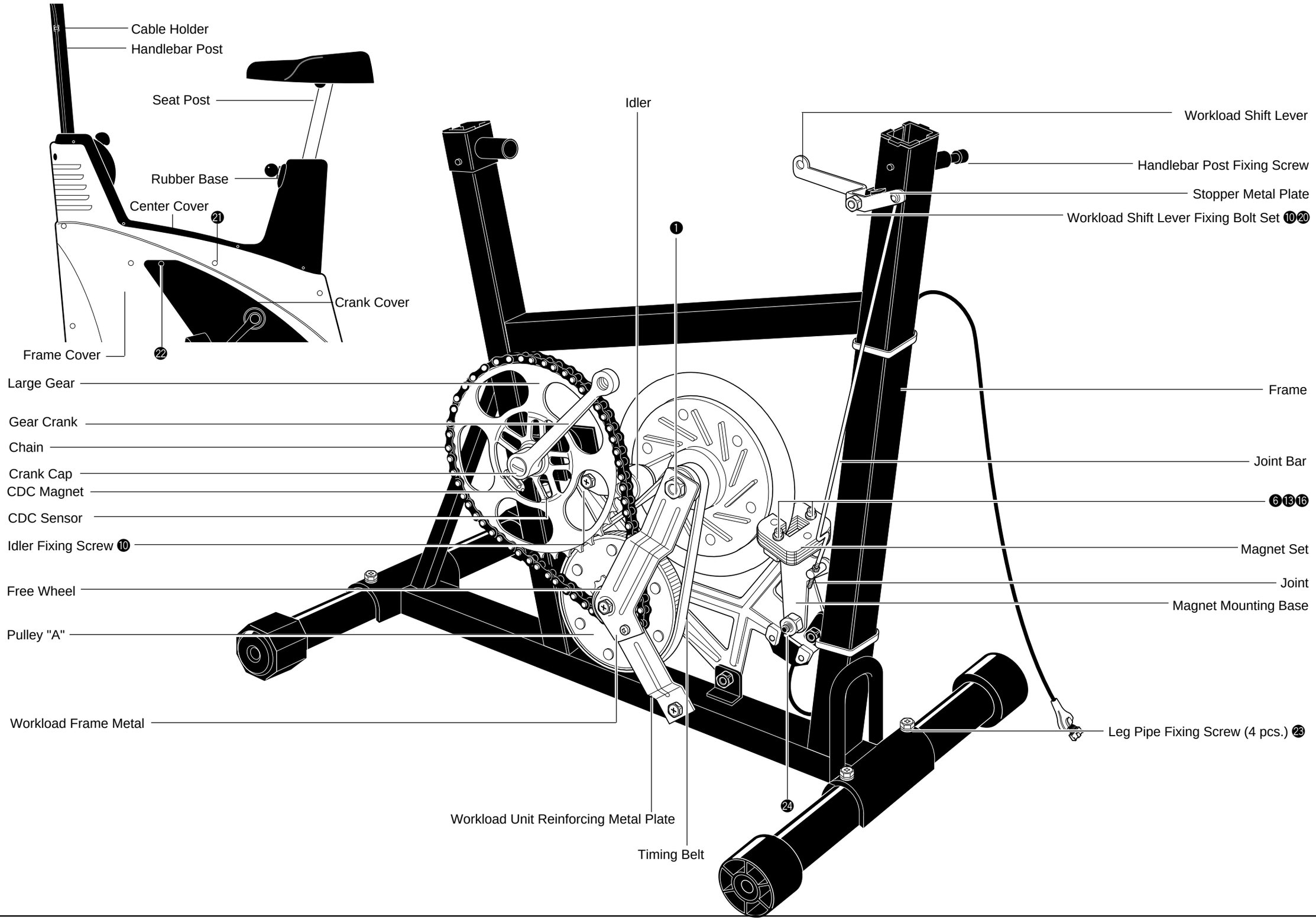
This service manual describes how to repair and adjust the Ergociser of manual load-change type which utilizes a permanet magnet.
The manual consists of Part A, Part B and Part C. Part A refers to trouble-shooting which allows you to identify the cause and areas to be fixed depending on typical symptoms. Part B shows how to repair and/or adjust specific defects. Part C lists up all genuin parts and corresponding part numbers that will be necessary for replacement or stock. Also, please refer to Operating Instructions which comes with the Cateye Ergociser.

Whenever any problem has occurred on the unit, take the following actions to repair or adjust it.

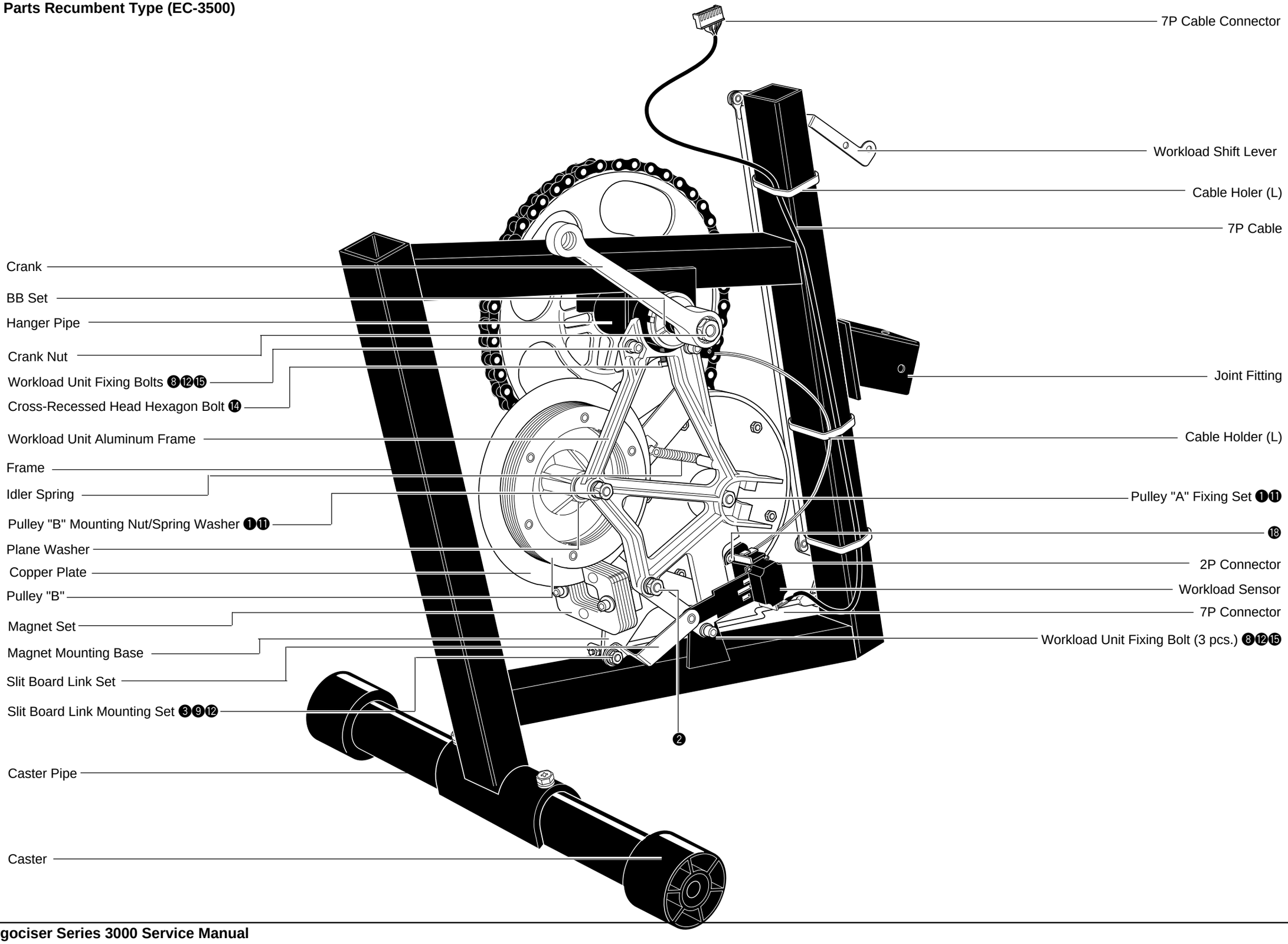
1. Check and identify the cause by referring to Part A.
2. Identify the part name by referring to Name of Parts.
3. Perform repair or adjustment in accordance with the instructions in Part B.
4. Replacement, if required, should be done by using genuine parts as specified in Part C.

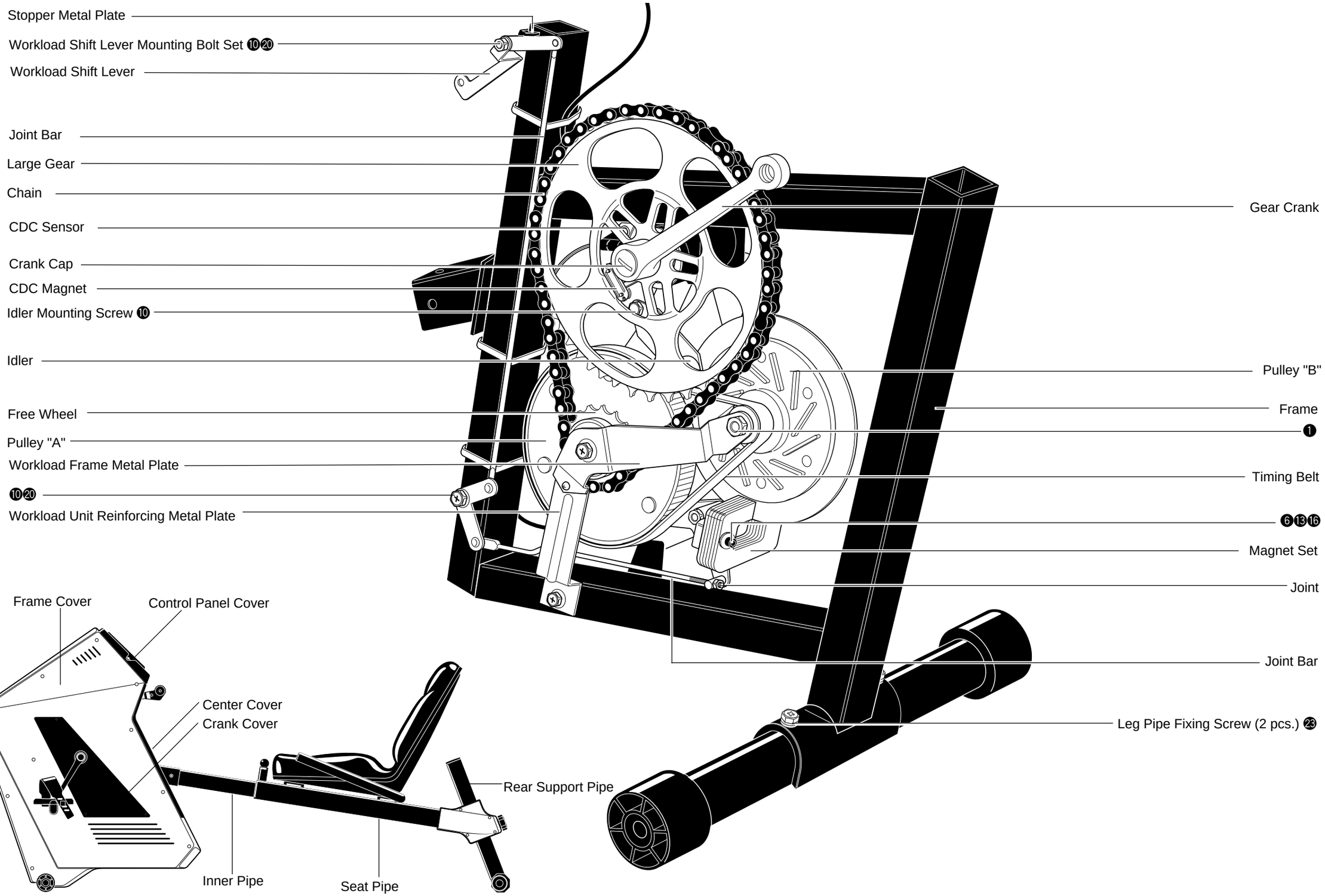
Name of Parts Upright Type (EC-3200)



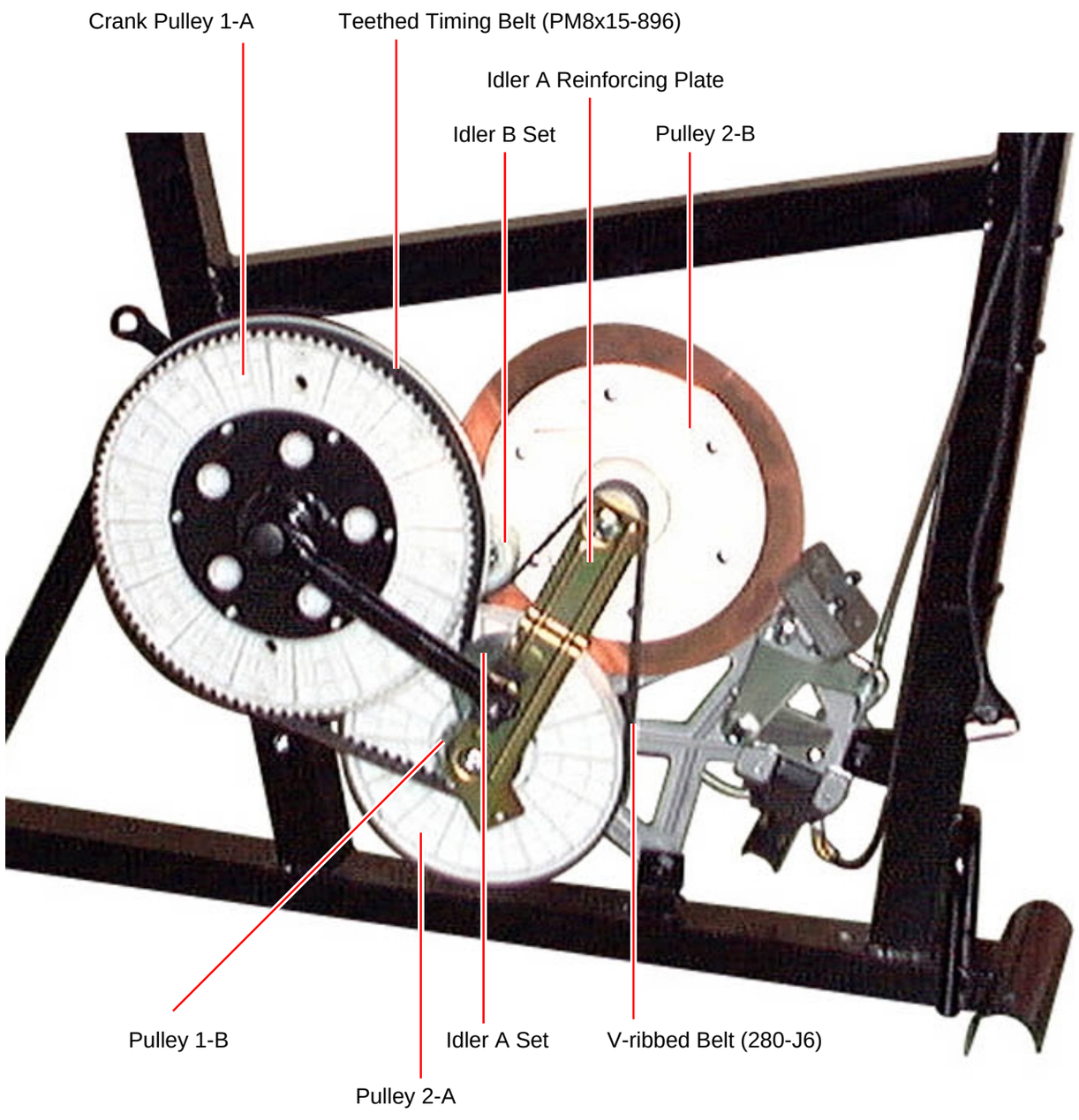

Cable Holder
Handlebar Post
Seat Post
Rubber Base
Center Cover
21
Crank Cover
Frame Cover
22
Large Gear
Gear Crank
Chain
Crank Cap
CDC Magnet
CDC Sensor
Idler Fixing Screw 10
Free Wheel
Pulley "A"
Workload Frame Metal
Idler
1
Workload Unit Reinforcing Metal Plate
Timing Belt
24
Workload Shift Lever
Handlebar Post Fixing Screw
Stopper Metal Plate
Workload Shift Lever Fixing Bolt Set 10 20
Frame
Joint Bar
6 13 16
Magnet Set
Joint
Magnet Mounting Base
Leg Pipe Fixing Screw (4 pcs.) 23

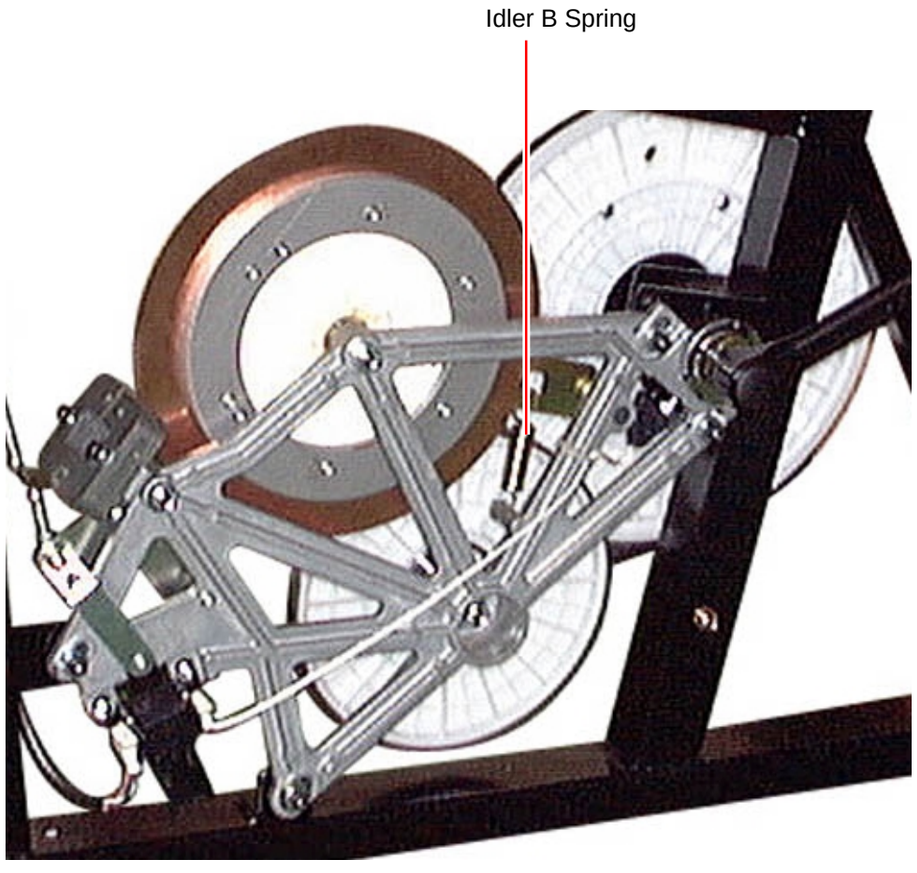
Name of Parts Recumbent Type (EC-3500)



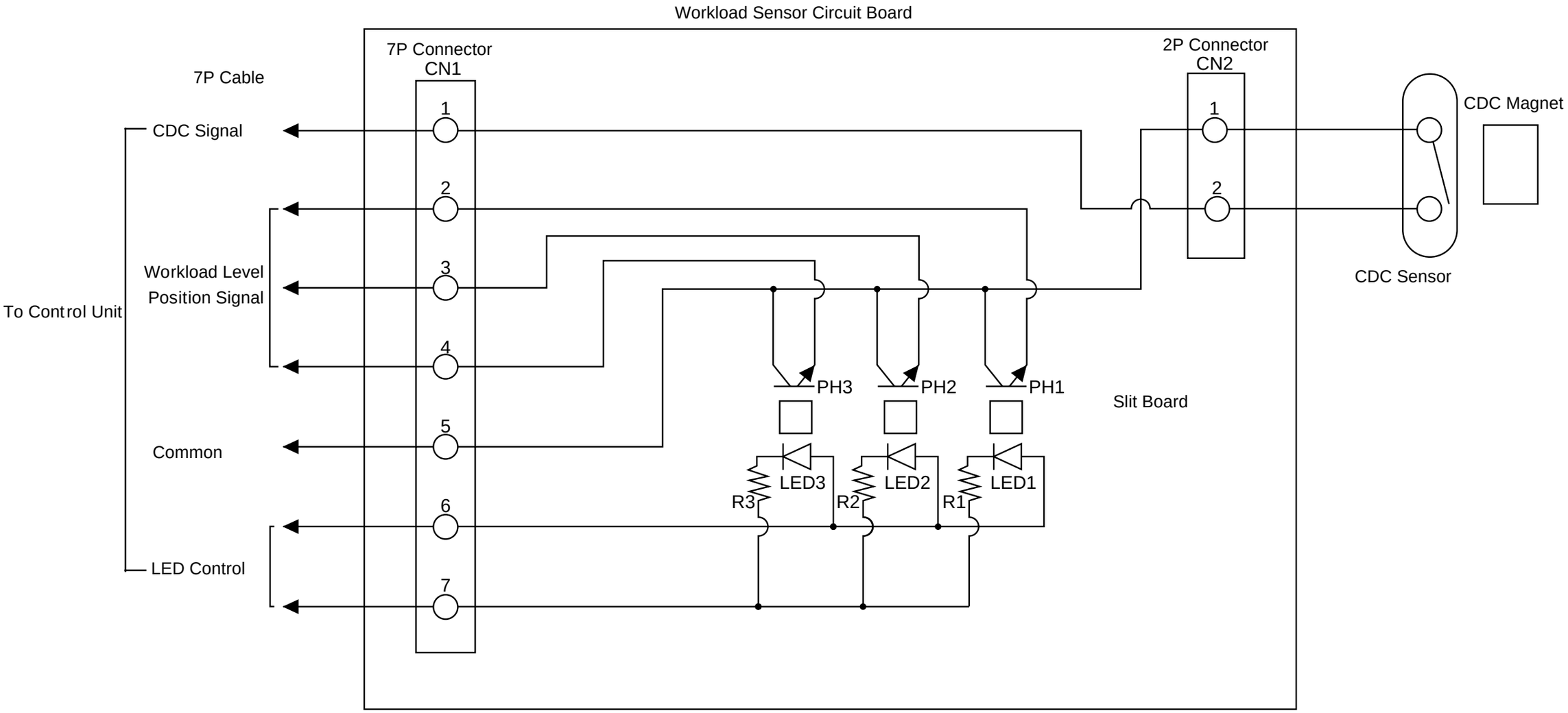

Stopper Metal Plate
Workload Shift Lever Mounting Bolt Set ⑩⑳
Workload Shift Lever
Joint Bar
Large Gear
Chain
CDC Sensor
Crank Cap
CDC Magnet
Idler Mounting Screw ⑩
Idler
Free Wheel
Pulley "A"
Workload Frame Metal Plate
⑩⑳
Workload Unit Reinforcing Metal Plate
Gear Crank
Pulley "B"
Frame
❶
Timing Belt
❻⑬⑯
Magnet Set
Joint
Joint Bar
Leg Pipe Fixing Screw (2 pcs.) ㉓
Frame Cover
Control Panel Cover
Center Cover
Crank Cover
Rear Support Pipe
Inner Pipe
Seat Pipe

Belt Drive


Crank Pulley 1-A
Teethed Timing Belt (PM8x15-896)
Idler A Reinforcing Plate
Idler B Set
Pulley 2-B
Pulley 1-B
Idler A Set
V-ribbed Belt (280-J6)
Pulley 2-A


Idler B Spring

Cateye Ergociser Manual Load-Change Type Circuit Diagram



Symptom of Problem	Check Method/Cause of Problem		Remedy
The display of Pedal Rotations, Current Speed and/ or Distance remains at zero (0).	Possible causes include: 1) Faulty connections (at three points) 2) Defective control unit 3) Defective CDC sensor 4) Breakage of cable Check the cause as per the following procedures.		
	1. Ensure if the 7P connector, which is on the back side of the control unit, is securely plugged.	If a correct display is restored, the control unit will not be defective. However, ensure firm plugging of the connector.	
	2. Check if normal operation is restored when the 7P connector is plugged to a new control unit.	If a correct display is restored, the control unit will be defective.	Replace the control unit.
	3. Remove the frame cover, and check if the two2P and 7P connectors are securely plugged to the workload sensor.	If a correct display is restored, the control unit will not be defective, but the plugging of two connectors (2P) and (7P) are insufficient.	
	4. Disconnect the 2P connector from the workload sensor. Place two probes of a multimeter across the two terminals of the 2P connector. Rotate the pedal and check if the two terminals are conductive.	The CDC sensor will be defective if the two terminals are not conductive once per revolution of the pedal.	Replace the CDC sensor. Refer to Section E-2 "Replacing the CDC Sensor."
		7P cable will be broken if the two terminals are conductive once per revolution of the pedal.	Replace the cable set. Refer to Section E-1 "Replacing the 7P Cable Set."
Workload Shift Position Mark will not be displayed. Workload Shift Position Mark will not change.	Possible causes include: 1) Faulty connections (at three points) 2) Defective control unit 3) Defective CDC sensor 4) Breakage of cable Check the cause as per the following procedures.		
	1. Ensure if the 7P connector, which is on the back side of the control unit, is securely plugged.	If a correct display is restored, the control unit will not be defective. However, ensure firm plugging of the connector.	
	2. Check if normal operation is restored when the 7P connector is plugged to a new control unit.	If a correct display is restored, the control unit will be defective.	Replace the control unit.
	3. Remove the frame cover, and check if the 7P connectors is securely plugged to the workload sensor.	If a correct display is restored, the control unit will not be defective, but the plugging of the connector (7P) are insufficient.	
	4. Disconnect the 7P connector from the workload sensor.	Place two probes of a multimeter across the end terminals of 7P connector to check the conductivity. * Place the probes at the connector slots of the same No. both across the large and small connectors.	If all the seven wires are found conductive, the workload sensor will be defective. Replace the sensor. Refer to Section E-3 "Replacing the Workioad Sensor."
		The cable will be broken if a specific wire of the cable shows no conductivity.	Replace the cable set. Refer to Section E-1 "Replacing the 7P Cable Set."
The operation of workload shift lever will not result in correct display of the workload shift lever position.	The position of the workload sensor is incorrect.		Adjust the position of the workload sensor. Refer to Section E-3 "Replacing the Workload Sensor Set."

Symptom of Problem	Check Method/Cause of Problem		Remedy
An "All Clear" operation will not rectify abnormal displays.	The control unit will be defective.		Replace the control unit.
The pulse rate reading remains at zero (0), and it does not count.	Follow the section "Checking the Pulse Sensor" in the Operating Instructions to check if the pulse sensor works correctly.	When the check revealed any breakage or damage of wires, the pulse sensor is defective.	Replace the pulse sensor.
		In case the pulse sensor is normal, the control unit will be defective.	Replace the control unit.
No workload.	Remove the frame cover, and check the following points. Refer to Section D-1 "Removing the Frame Cover."		
	1. Check if there are any problems with the chain.		Replace the chain if it is broken. Refer to the Section M-2 "Replacing the Chain."
	2. Check if the free wheel is idle-running. *Rotate the pedal, and check if the belt rotates.		Replace the pulley "A" set if the free wheel is idle-running. Refer to the Section M-4 "Replacing the Pulley "A" Set."
	3. Check if there are any problems with the belt.		Replace the belt if it is broken or worn out. Refer to the Section M-3 "Replacing the Belt and Pulley "B" Set."
	4. Check if the pulleys are damaged.		Replace the pulley "A" set if it is broken or worn out. Refer to the Section M-4 "Replacing the Pulley "A" Set."
			Replace the pulley "B" set if it is broken or worn out. Refer to the Section M-3 "Replacing the Belt and Pulley "B" Set."
Seat post slips down abruptly.	Incorrect adjustment of the spacer spring.		Adjust the spacer spring. Refer to the Section M-11 "Adjusting the Spacer Spring."
Abnormal sounds in the unit. The operating noise (continuous) has become larger.	Lack of chain lubrication.		Grease the chain. Greasing of the inner surface of the belt (mading surface with the pulley) will also contribute to reduce the noise level. Refer to the Section D-1 "Removing the Frame Cover."
	Incorrect tensioning of the chain.		Adjust and set the tensioning as specified. Refer to the Section M-2 "Replacing the Chain."
Noise occurs periodically. 1. Noise occurs once per rotation of the pedal.	Fastening of the pedal is loose.		Fasten the pedal onto the crank with a No. 15 wrench.
	Bearings of the pedal are defective.		Replace the pedal.
2. Abnormal noise is heard while the pedal is being rotated.	The copper plate contacts the magnet set.		Adjust the position of the magnet set. Refer to the Section M-8 "Replacing the Magnet Set."

D-1 Removing the Frame Covers

When any repairs or adjustments of parts within the frame cover is required, remove the frame covers in the following procedures.

■REMOVAL

(1) Remove the pedals at both the left and right sides.(Fig. 1)

(2) Remove the crank cover fixing screws. The narrow-width area of the crank cover should position in between the frame cover and the crank.(Fig. 2)

(3) Remove the leg pipe fixing screws.(Fig. 3)

* You do not have to remove the leg pipe itself.

(4) For the upright type (EC-3200), disassembling should be made in the following procedures:

1. Detach the rubber base at the seat post lock knob from the cen ter cover.
2. Loosen the center cover fixing screw a little, and lift the center cover upward. (Do not remove it.)(Fig. 4)

* In the case of the recumbent type model, no center cover fixing screws are available.

(5) Remove the frame cover fixing screw with a screwdriver before re-moving the frame cover.(Fig. 5)

■ASSEMBLING

(1) Place the frame covers onto the frame at both right and left sides, paying attention to the position of the crank.

* In the case of the recumbent type model, the center cover should be placed in between the right and left frame covers when the two covers are to be mated each other.

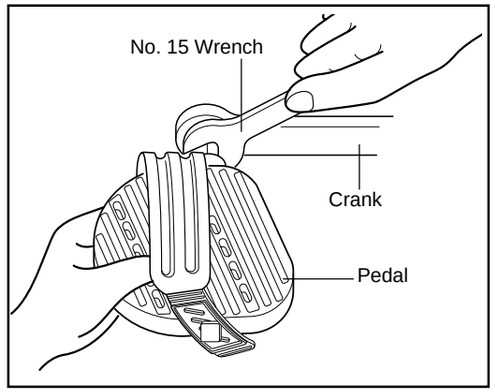
(2) Fix the right and left frame covers with frame cover fixing screws.

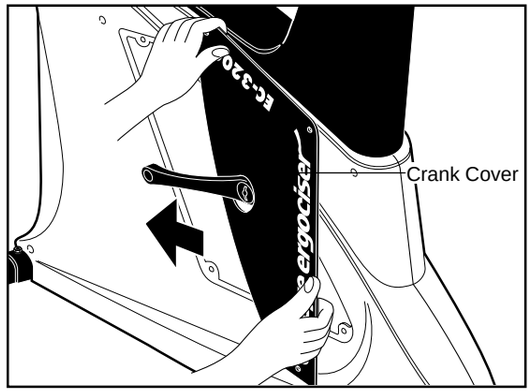
(3) Set the center cover to the frame cover correctly in position, and fix it with the center cover fixing screws.(Fig. 4)

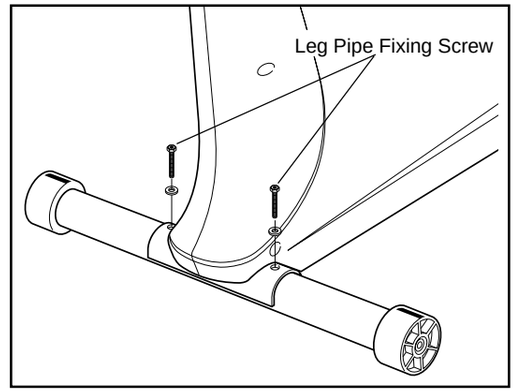
* This procedure is for the upright type model only.

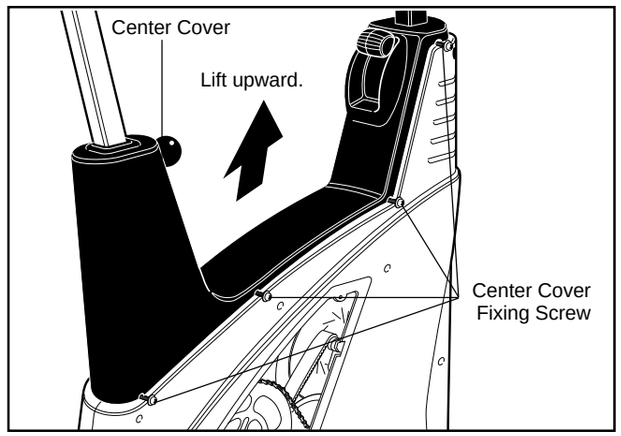
(4) Pass the crank through the hole on the crank cover, and fix the crank cover onto the frame cover with screws.(Fig. 2)

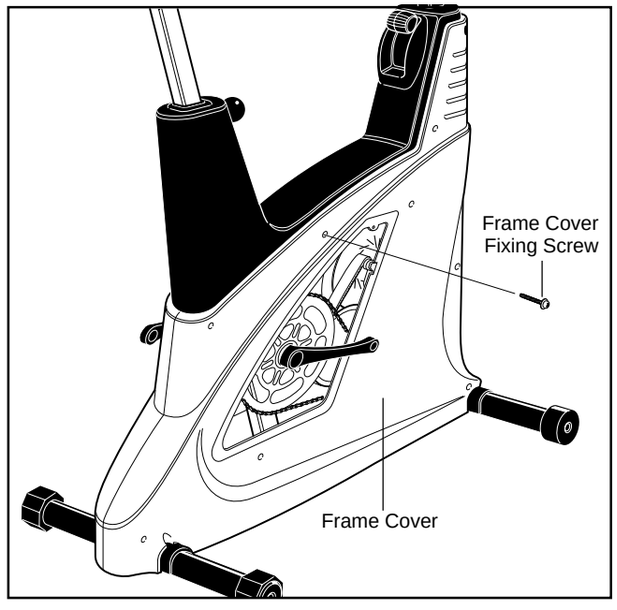
(5) Set the rubber base at the seat post lock knob, and then mount the right and left pedals.

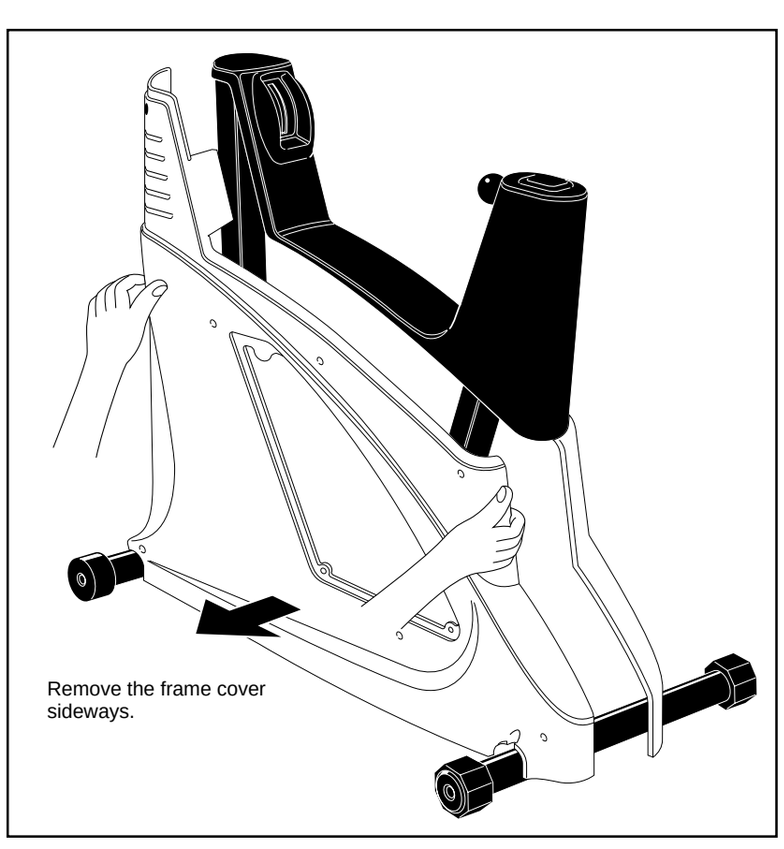












E-1 Replacing the 7P Cable Set

(1) Procedures are different depending on the type of model as shown below:

◎Upright Type (EC-3200)

Remove the 7P cable connector to the control unit, and then remove the cable from the cable holder of the handlebar post.

◎Recumbent Type (EC-3500)

Remove the control panel cover before taking out the control unit, and disconnect the 7P cable connector.(Figs. 2,3)

(2) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Cover."

(3) Remove the 7P cable connector to the workload sensor.(Fig. 6)

(4) Cut the two cable clips which fix the cable to the frame, and remove the existing cable.

(5) Mark the brandnew cable set as per the following procedures.Fig. 7)

EC-3200: Mark the cable at the position 78cm from the large cable connector.

EC-3500: Mark the cable at the position 36cm from the large cable connector.

(6) Apply a cable clip at the position marked in step (5) above, and fix the cable to the square pipe at a position just below the welded area. (For EC-3200: Fig.8, EC-3500: Fig. 9) Also, fix the cable at the lower part of the square pipe. To apply a cable clip, strongly pull the clip by using a plier, and cut the excessive part.

(7) Firmly connect the 7P cable connector (smaller) to the workload sensor.(Fig. 6)

(8) Pull the cable out of the center cover through the hole on the cover, and connect the 7P cable connector (larger) to the control unit. Check if the control unit operates correctly.

* In the case of the recumbent type model, pull the 7P cable connector out of the center cover through the hole on the cover, and tentatively hold it with an adhesive tape so that it may not be retructed.

(9) Reassemble the frame cover, by referring to the Section D-1 "Removing the Frame Cover."

(10) Connect the 7P cable connector to the control unit.

◎Upright Type (EC-3200)

Set the connector cover, and fix the cable holder to the handlebar post.

◎Recumbent Type (EC-3500)

Mount the control unit to the frame along with the control panel cover.

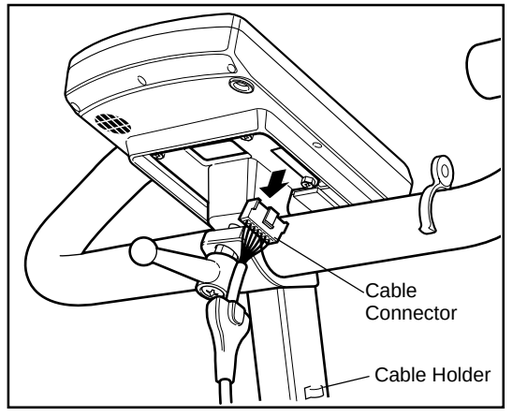


Fig.1

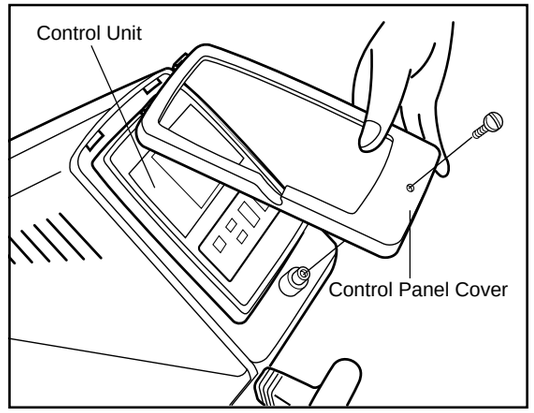


Fig.2

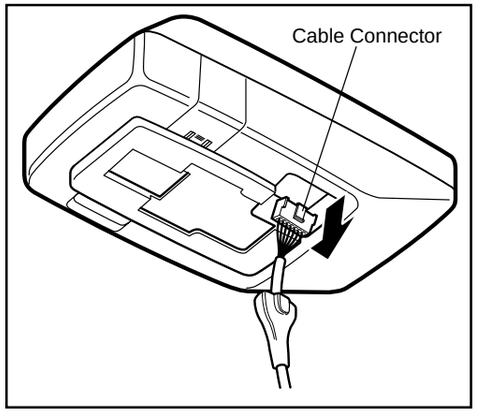


Fig.3

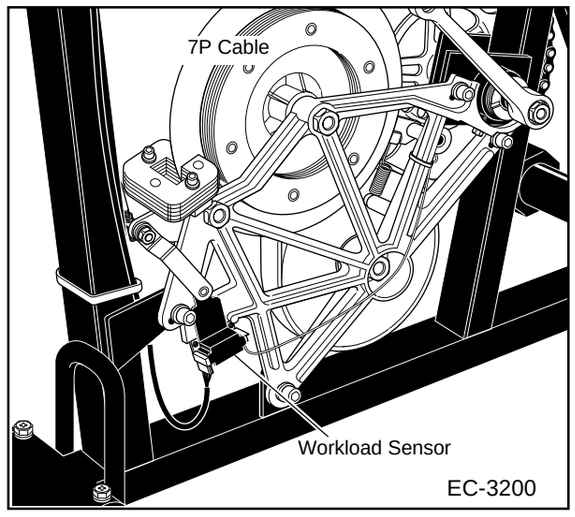


Fig.4

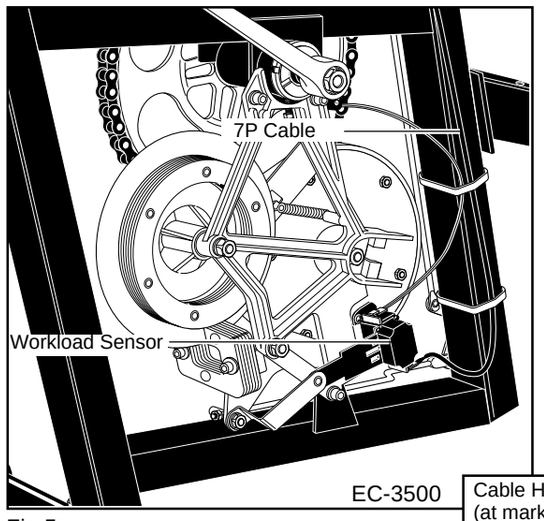


Fig.5

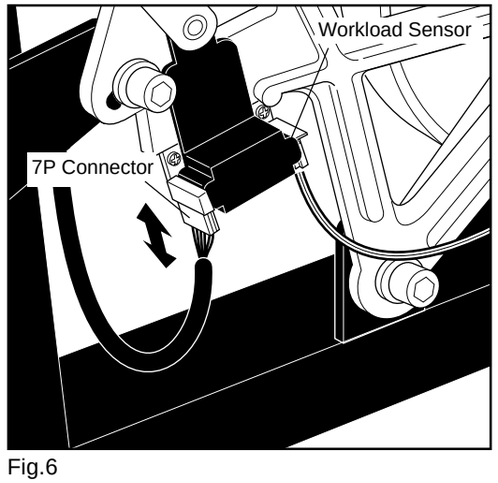


Fig.6

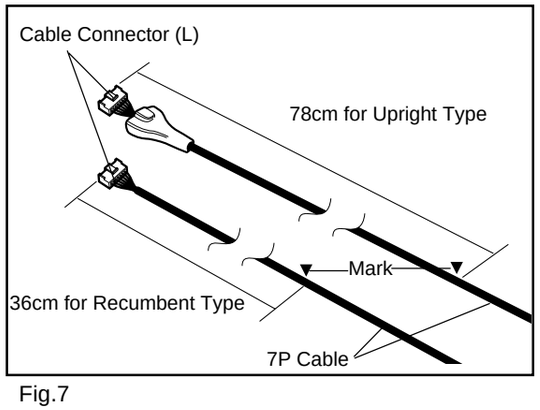


Fig.7

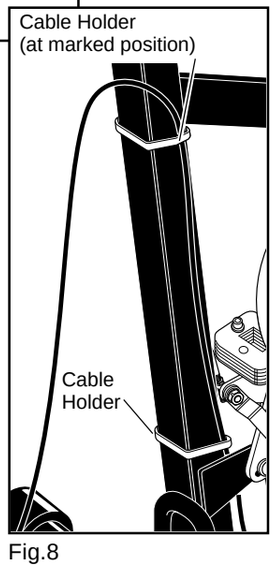


Fig.8

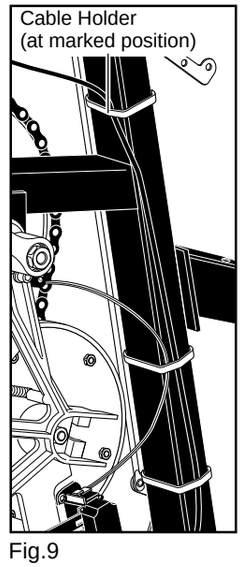


Fig.9

E-2 Replacing the CDC Sensor

(1) Disconnect the frame cover, by referring to the Section D-1 "Removing the Frame Covers." (Figs. 1,2)

(2) Disconnect the 2P connector from the workload sensor.(Fig. 3)

(3) Cut the cable clips which fix the CDC sensor cord to the workload unit aluminum frame.

(4) Loosen the screws which fix the CDC sensor (defective) to remove the sensor. Mount and fix a brandnew CDC sensor.(Fig. 4)

(5) Perform the following adjustment:

1. Align the line on the CDC sensor with the center of the line on the CDC magnet. (Figs. 5,6)
2. The clearance between the CDC sensor surface and the magnet surface should be approx. 2mm. (Fig. 6)

* When the specified clearance has not been established, bend the metal base to have the celarance.

(6) Firmly connect the 2P connector to the workload sensor.(Fig. 3)

(7) Rotate the crank, and check if the number of pedal rotations is displayed on the control unit.

(8) Fix the CDC sensor cord to the workload unit aluminum frame by using cable clips.(Fig. 7)

(9) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

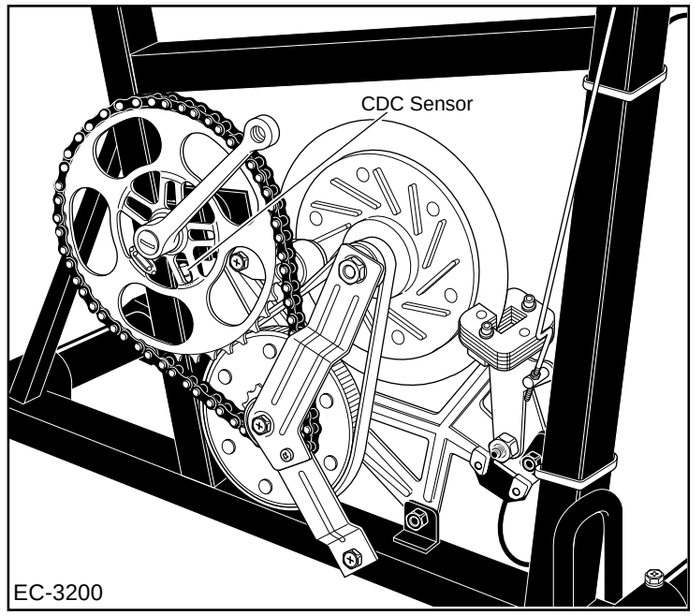


Fig.1

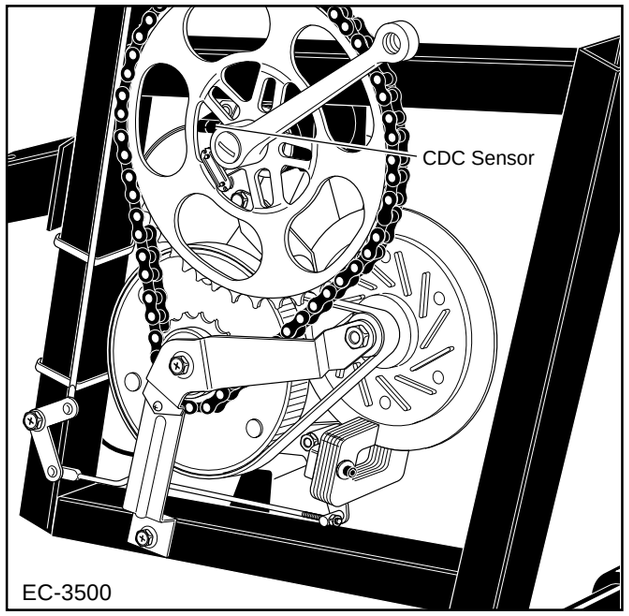


Fig.2

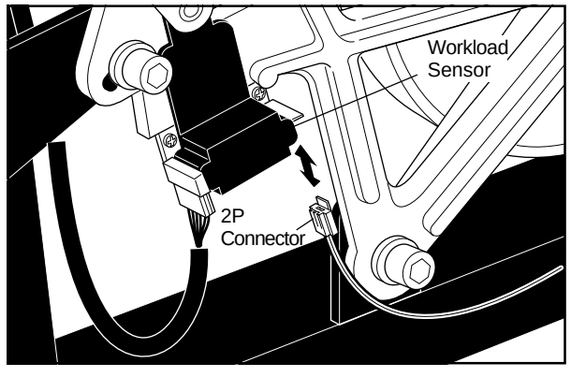


Fig.3

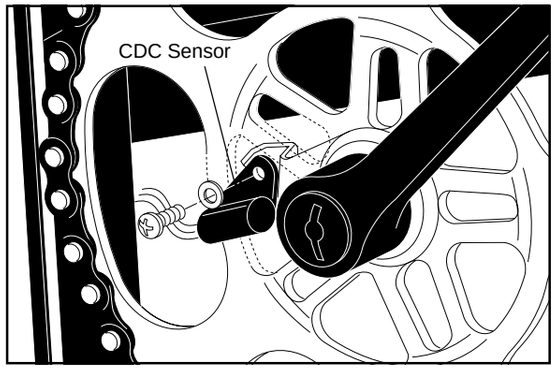


Fig.4

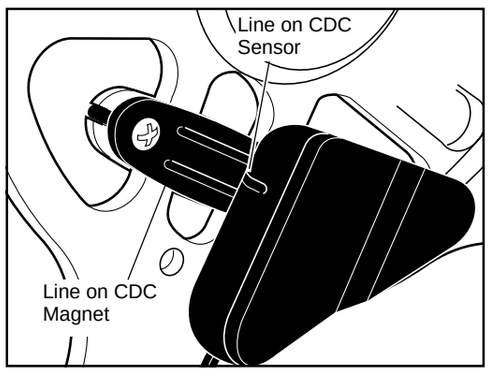


Fig.5

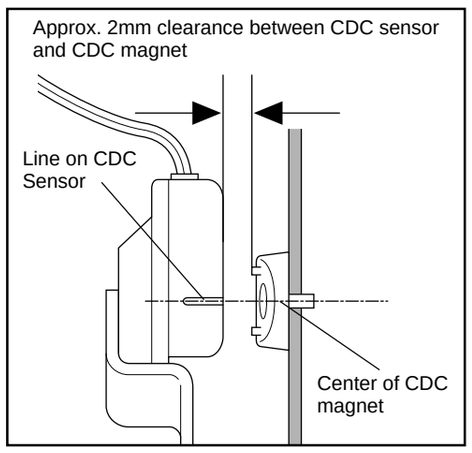


Fig.6

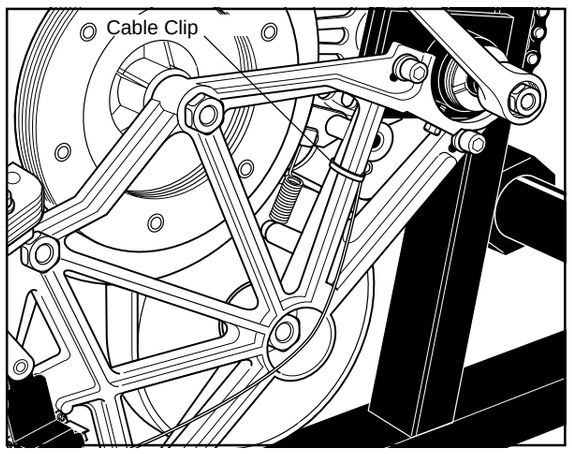


Fig.7

E-3 Replacing the Workload Sensor Set

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers." (Figs. 1 , 2)

(2) Disconnect the 2P and 7P connectors from the workload sensor.(Fig. 3)

(3) Remove the workload sensor by loosening screws. Do this step carefully not to damage the slit board.(Fig. 4)

(4) Insert a brandnew workload sensor into the slit board.(Fig. 5)

(5) Set the workload shift lever to Point 8. Adjust the position of the workload sensor set so that the center part of the slit board protrude approx. 2mm from the low end of the workload sensor set. Fix the slit board with screws.(Fig. 6)

(6) Connect 2P and 7P connectors to the workload sensor.(Fig. 3)

(7) Check if the control unit operates properly.

(8) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

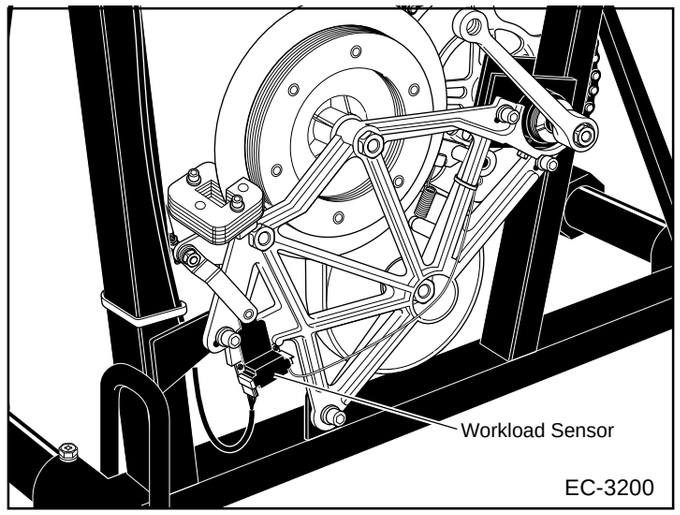


Fig.1

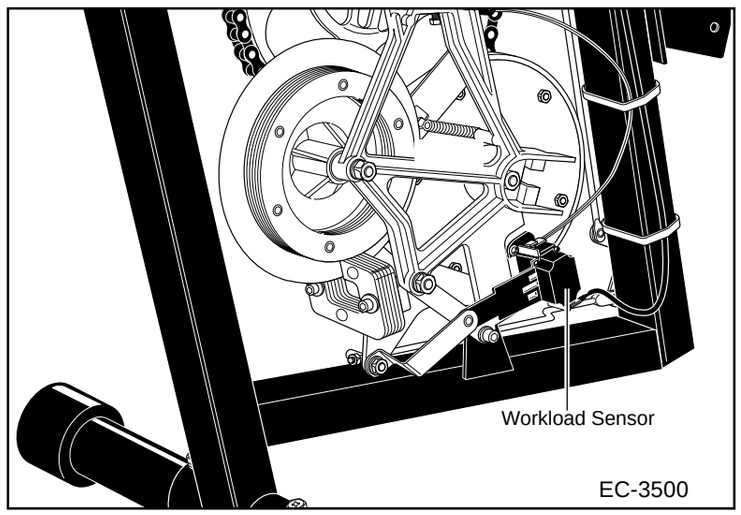


Fig.2

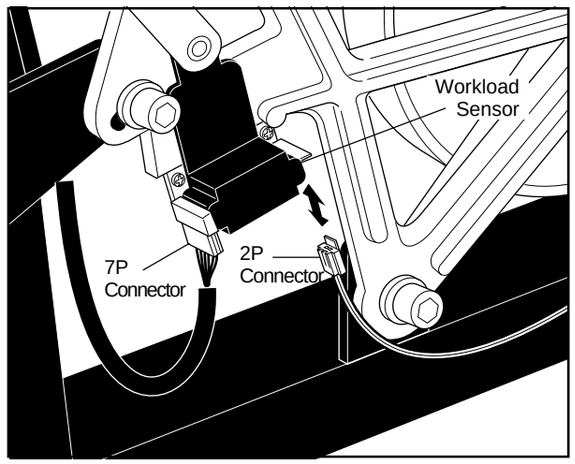


Fig.3

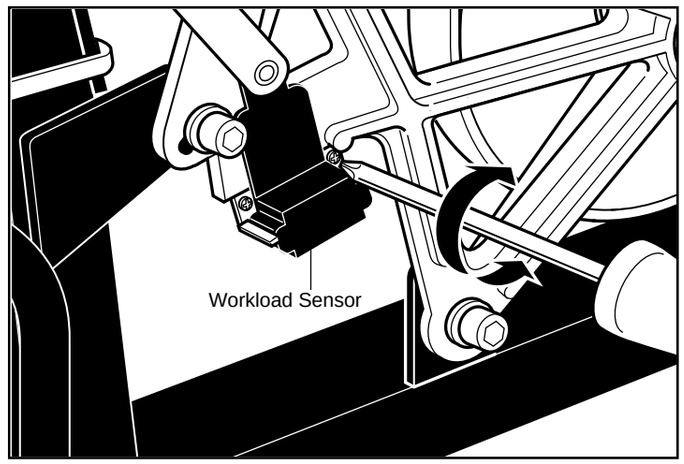
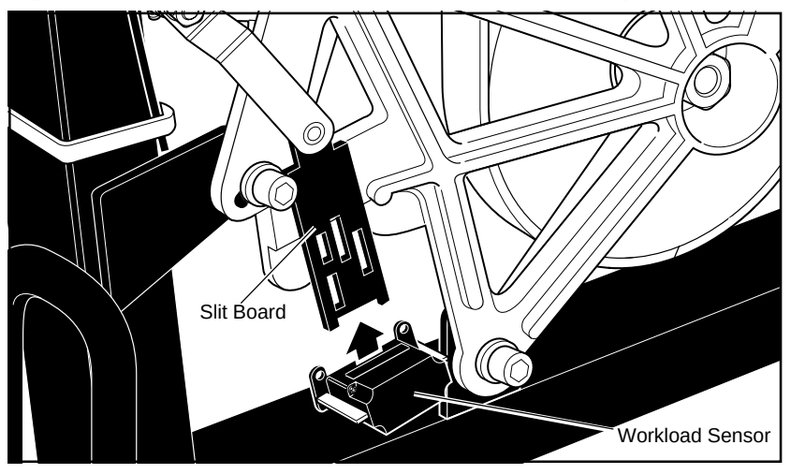


Fig.4



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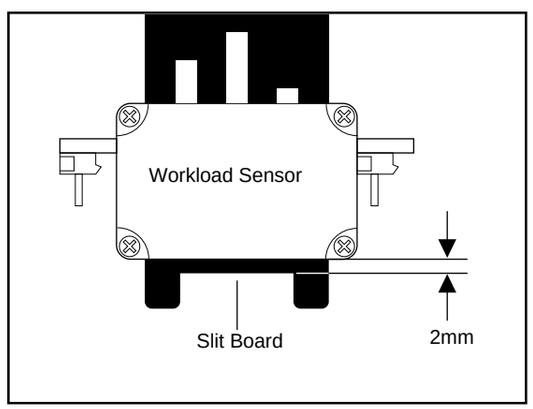


Fig.6

E-4 Replacing the Button Panel

(1) Insert a thin cutting knife, while paying cautions not to damage the control unit,in between the button panel and the unit, and carefully peel off the damaged button panel.(Fig. 1)

(2) Clean the adhesive agent, if any, on the control unit before placing a brandnew button panel.

* Sufficiently press the button panel thus placed.

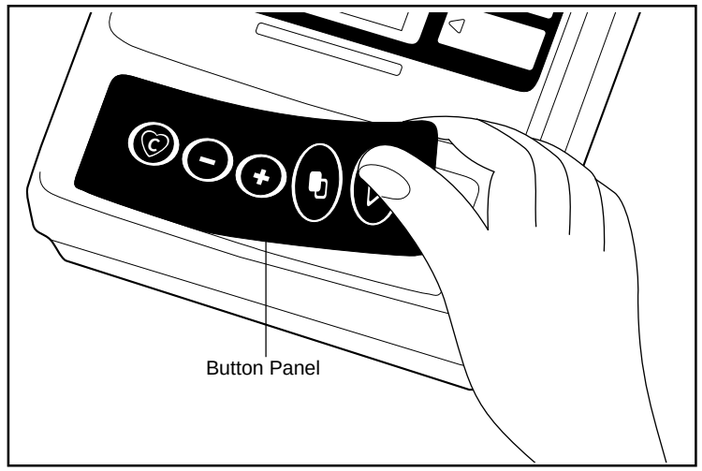


Fig.1

M-1 Replacing the Workload Unit 1

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Cover." (Figs. 1 ,2)

(2) Remove the joint nut, by using a wrench, which is located just below the joint bar that connects the workload shift lever and the workload unit.(Fig. 3)

(3) Move the workload shift lever to remove the joint bar from the joint. (Fig.3)

(4) Remove a nut from the pulley "B" shaft and two bolts from the pulley "A" shaft and the frame, and remove the workload frame metal base together with the workload unit reinforcing metal base.(Fig. 4)

(5) Use a screwdriver to loosen the cross-recessed head hexagon bolt which presses the workload unit aluminum frame to the hanger pipe, until the leading edge of the screw is concealed by the aluminum frame.(Fig. 5)

(6) Use a hexagon wrench to loosen the four (three for EC-3500) workload unit fixing bolts which fix the workload aluminum frame to the main unit.(Fig. 6)

Caution: Never remove these bolts, but just loosen them.

- to be continued on the next page -

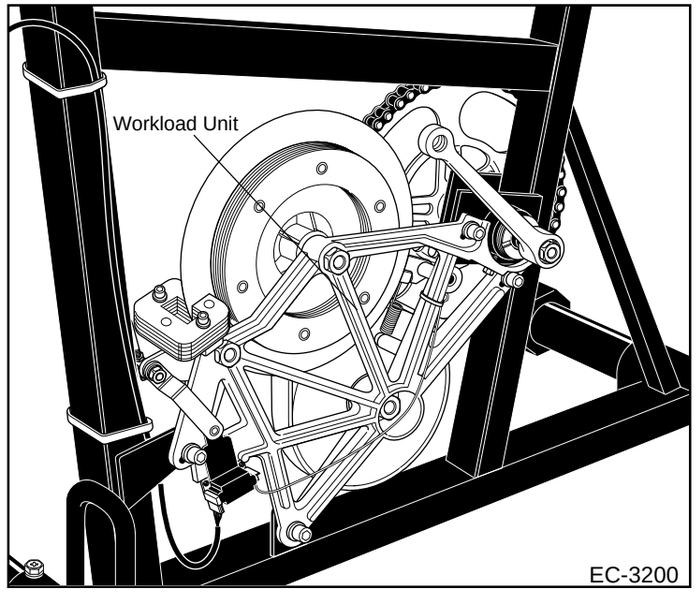


Fig.1

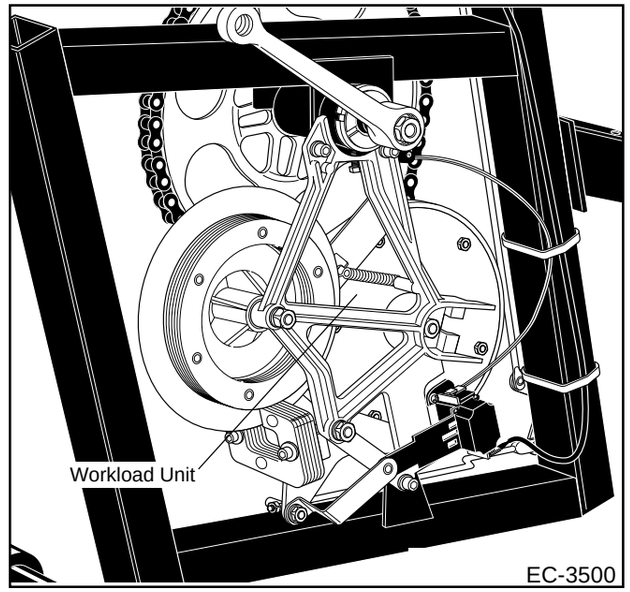
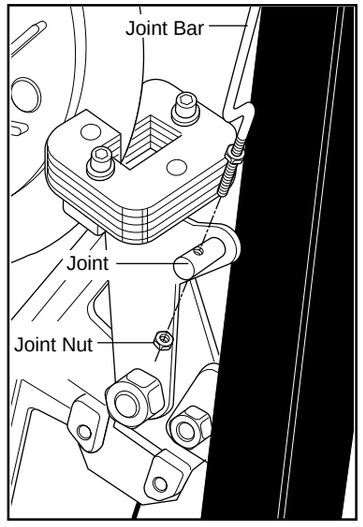


Fig.2



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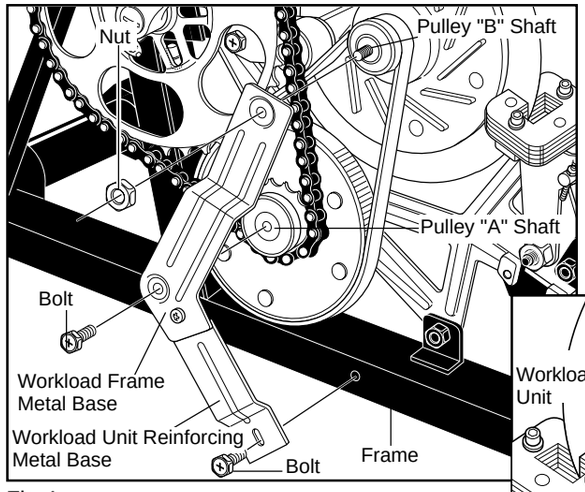

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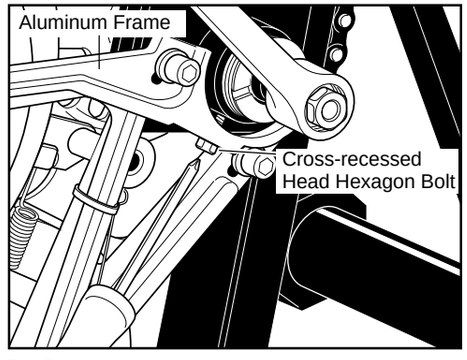


Fig.5

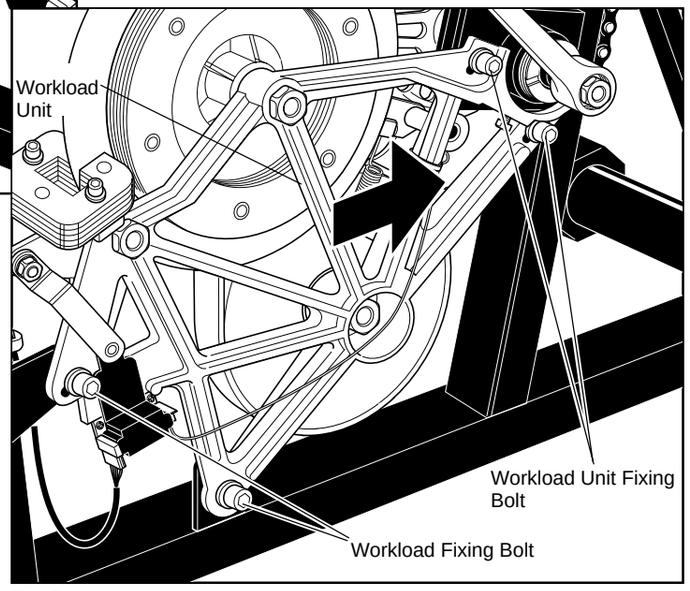


Fig.6

M-1 Replacing the Workload Unit 2

(7) Slide the workload unit aluminum frame toward the side of the hanger pipe to loosen the tension of the chain, and remove the chain. The entire chain can be removed when it is first removed at the upper part of the large gear, and then rotate the crank forward.(Fig. 7)

(8) Disconnect 2P and 7P connectors from the workload sensor.(Fig. 8)

(9) Remove four workload unit fixing bolts which has been loosening in step (6), and remove the workload unit from the frame.(Fig. 9)

(10) Mount a brandnew workload unit. Mounting of the workload unit can be done in the procedures opposite to disassembling.

(11) The chain should be first set on the free wheel, and then on the upper part of the large gear. A forward rotation of the crank will enable the complete setting.(Fig. 10)

(12) Adjust the tension of chain. Fasten the cross-recessed head hexagon bolt to press the aluminum frame to the hanger pipe. The tension of chain should be adjusted as illustrated in Fig. 11.

* Be careful about excessive tensioning of the chain. After completing the adjustment, fasten the four (three for EC-3500) workload unit fixing bolts with a hexagon wrench.(Fig. 9)

(13) Fix the workload frame metal base to the pulley "B" shaft with a nut, and to the pulley "A" shaft with a bolt, fix it to the frame with bolts.(Fig. 4)

(14) Connect 2P and 7P connectors from the workload sensor.(Fig. 8)

(15) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

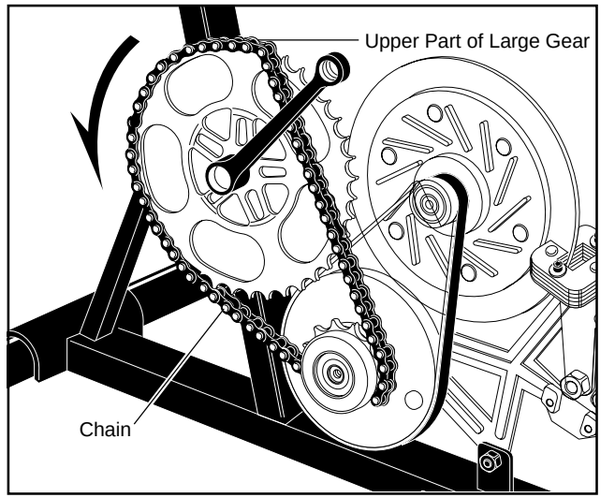


Fig.7

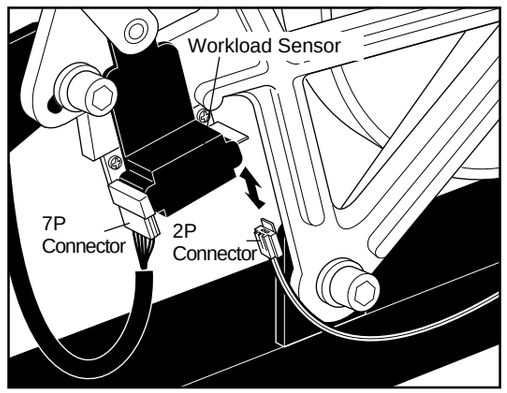


Fig.8

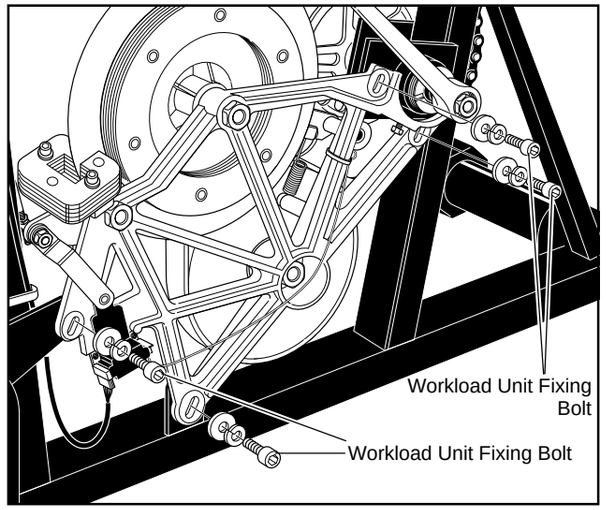


Fig.9

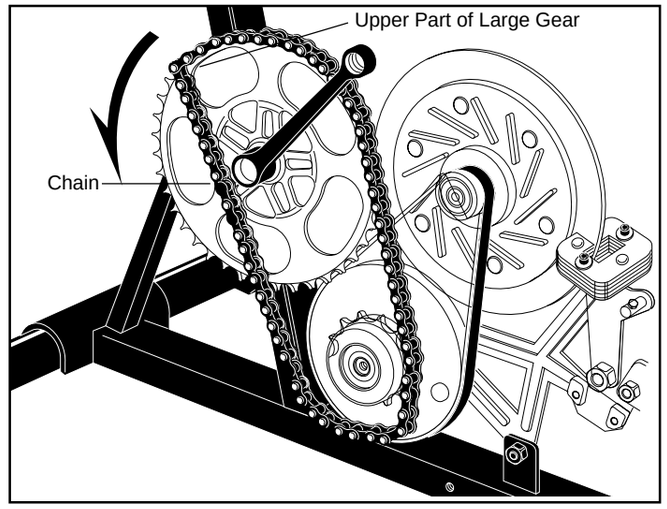


Fig.10

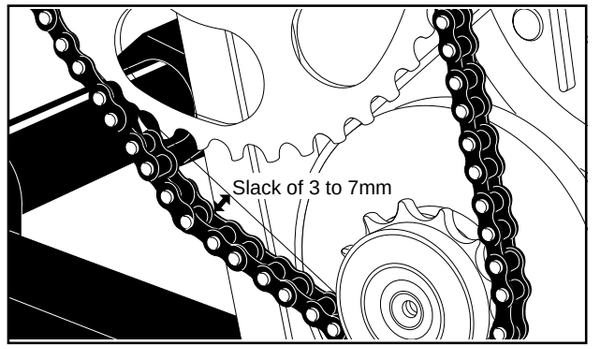


Fig.11

M-2 Replacing the Chain

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers." (Figs. 1 ,2)

(2) Remove a nut from the pulley "B" shaft and two bolts from the pulley "A" shaft and the frame, and remove the workload frame metal base together with the workload unit reinforcing metal base.(Fig. 3)

(3) Loosen the cross-recessed head hexagon bolt which presses the workload unit aluminum frame to the hanger pipe, until the leading edge of the bolt screw is concealed within the aluminum frame.(Fig. 4)

(4) Loosen the four (three for EC-3500) workload unit fixing bolts which fix the workload unit aluminum frame to the unit, by using a hexagon wrench.(Fig. 5)

Caution:Never remove the workload unit fixing bolts, but just loosen them.

(5) Slide the workload unit aluminum frame toward the side of hanger pipe, and loosen the tension of chain to detach it. First, detach the chain at the upper part of the large gear, and then rotate the crank forward to detach the entire chain.(Fig. 6)

(6) A brandnew chain should be first set on the free wheel, and then on the upper part of the large gear. A forward rotation of the crank will enable the complete setting of the gear.(Fig. 7)

(7) Adjust the tension of chain. Fasten the cross-recessed head hexagon bolt to press the aluminum frame to the hanger pipe. The tension of chain should be adjusted as illustrated in Fig. 8.

* Be careful about excessive tensioning of the chain. After completing the adjustment, fasten the four (three for EC-3500) workload unit fixing bolts with a hexagon wrench.(Fig. 5)

(8) Fix the workload frame metal base to the pulley "B" shaft with a nut, and to the pulley "A" shaft with a bolt, fix it to the frame with bolts.(Fig. 3)

(9) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

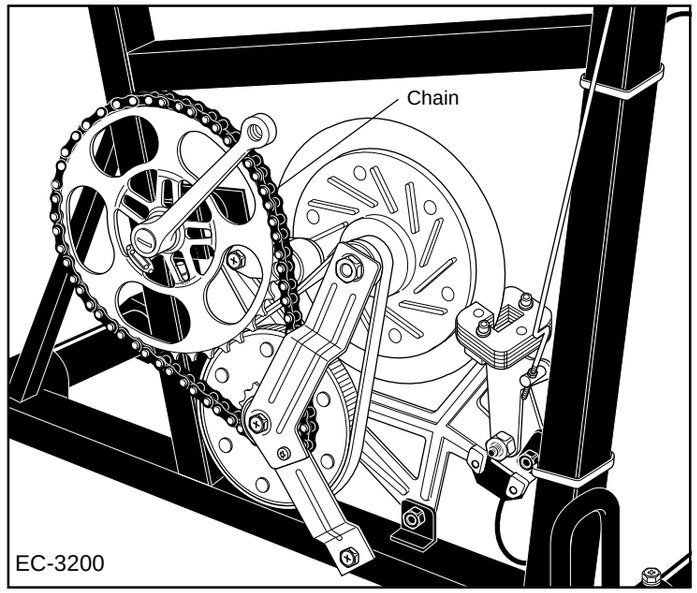


Fig.1

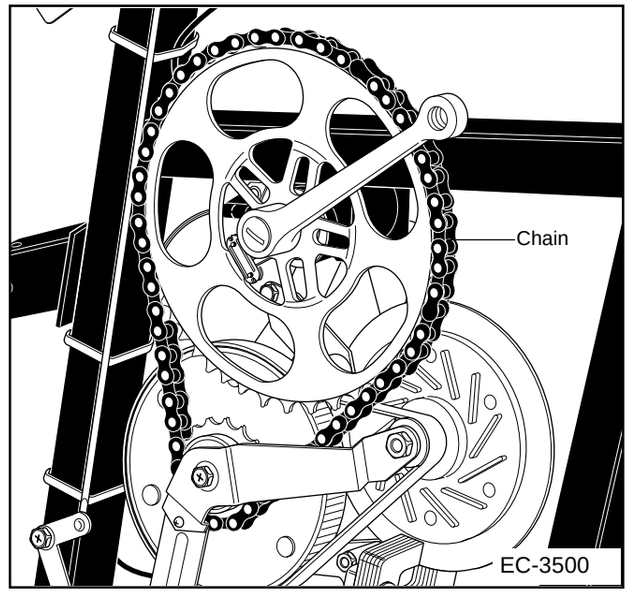


Fig.2

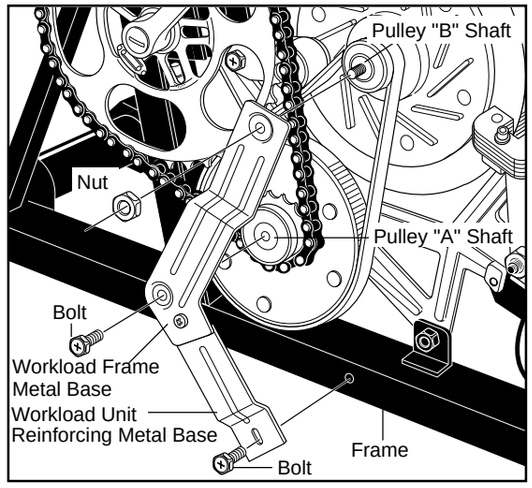


Fig.3

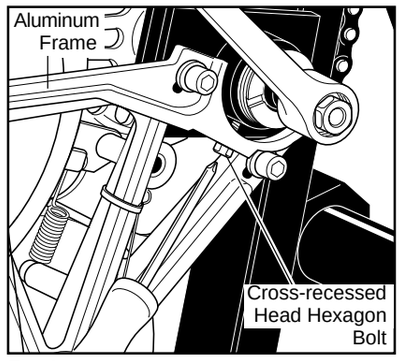


Fig.4

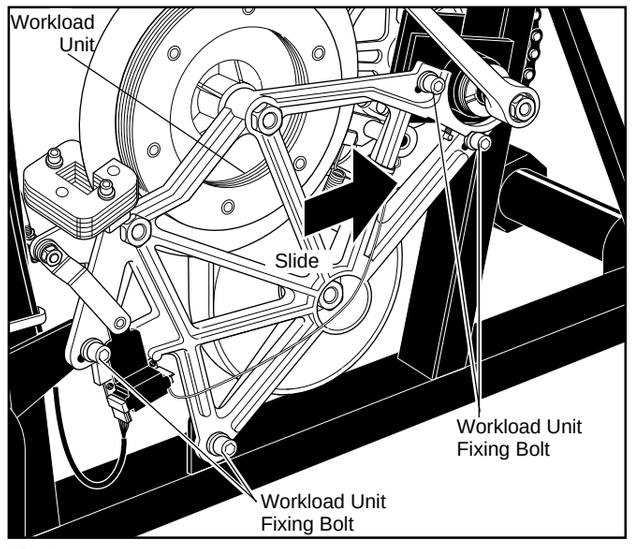


Fig.5

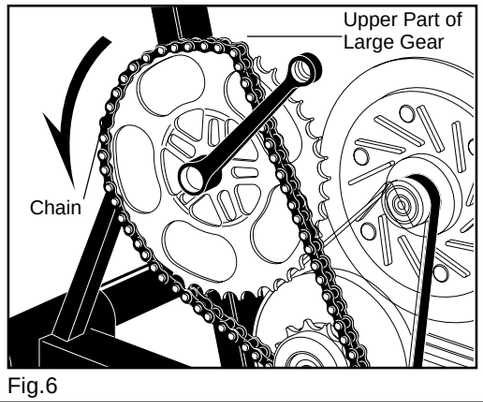
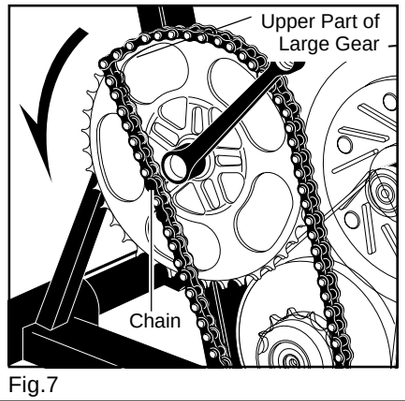


Fig.6



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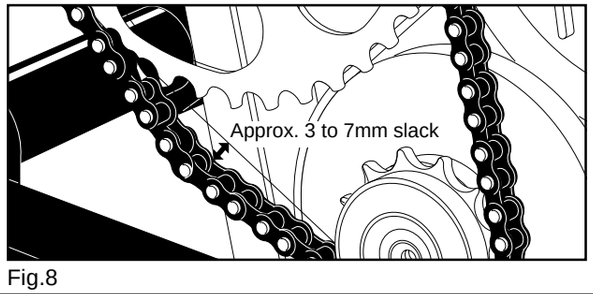


Fig.8

M-3 Replacing the Belt and Pulley "B" Set

■REMOVAL

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers." (Figs. 1,2)

(2) Remove a nut from the pulley "B" shaft and two bolts from the pulley "A" shaft and the frame, and remove the workload frame metal base together with the workload unit reinforcing metal base.(Fig. 3)

(3) Remove the idler spring from the latch of the idler metal base.(Fig. 4)

(4) Move the workload shift lever to the Point 8 to position the magnet horizontally.(Fig. 5)

(5) Remove the bolts which fix the magnet to the magnet mounting base, by using a hexagon wrench, and remove the magnet set.(Fig. 5)

(6) Detach the gear crank and chain, by referring to Steps (3) thru (8), "Removing the Gear Crank", Section M-6 "Replacing the Crank Set." (Do not remove the crank at the left side.)

(7) Remove nuts from the pulley "B" shaft and the pulley "A" shaft at the aluminum frame side, and then remove belt, pulley "A" and pulley "B" in this order.

■ASSEMBLING

(1) Set a plane wahser to the pulley "B" shaft, and mount the pulley "B" and pulley "A" to the workload aluminum frame in this order, by using spring washers and nuts. Then, apply a brandnew belt.

(2) Mount the gear crank and chain, by referring to Steps (1) thru (5), "Assembling the Gear Crank", Section M-6 "Replacing the Crank Set."

(3) Put the magnet set on the magnet mounting base, and make position adjustment against the copper plate in the following procedures:

1. Place the magnet set so that the inner side of the magnet side can be positioned approx. 2mm inward of the outer edge of the copper plate.(Fig. 7)
2. The copper plate should position at the center of the gap of magnet. * Rotate the copper plalte to check if it does not contact the magnet at any position during the rotation.(Fig. 8)

(4) Fix the magnet set to the magnet mounting base, by using a cap bolt, a spring washer, and a plane washer.(Fig. 5)

(5) Hang the idler spring on the latch of the idler to give tension to the belt.(Fig. 4)

(6) Fix the workload unit frame metal base to the pulley "B" shaft by using a nut and to the pulley "A" shaft by using a bolt, and then fix the metal base to the frame with bolts.(Fig. 3)

(7) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

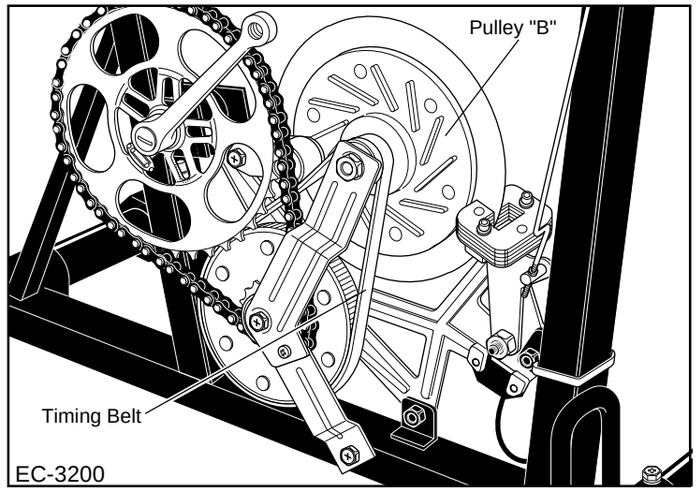


Fig.1

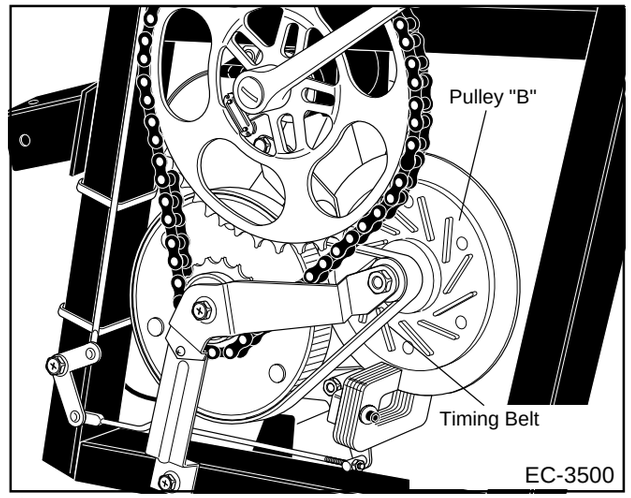


Fig.2

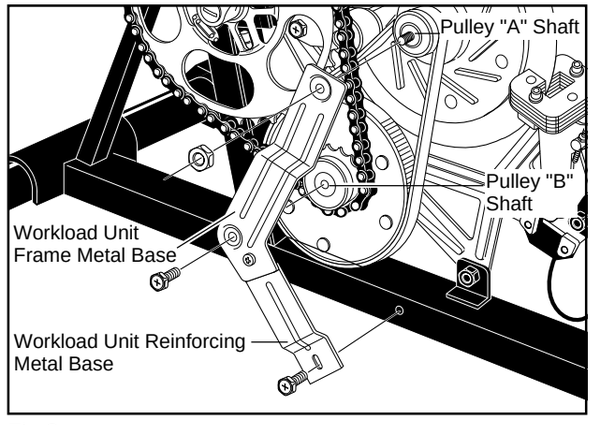


Fig.3

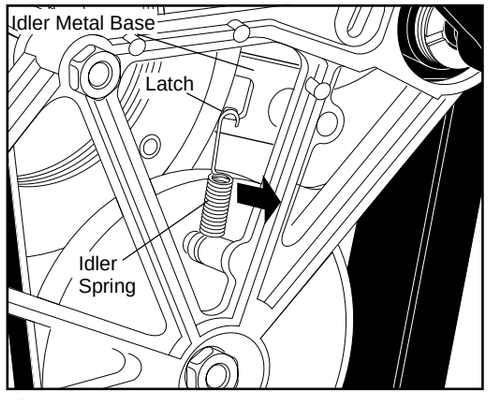
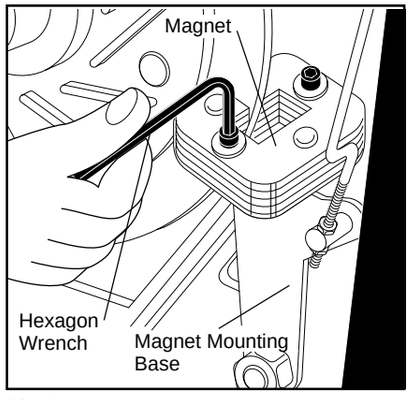


Fig.4



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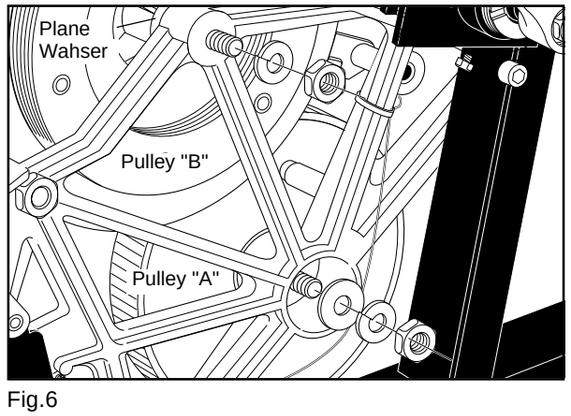

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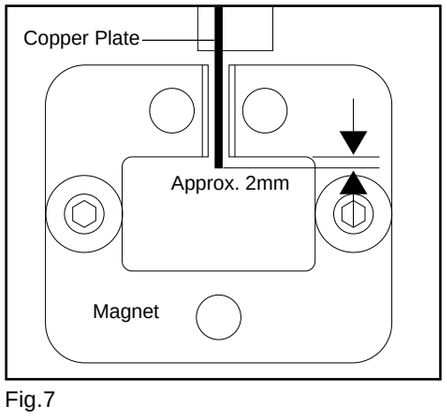


Fig.7

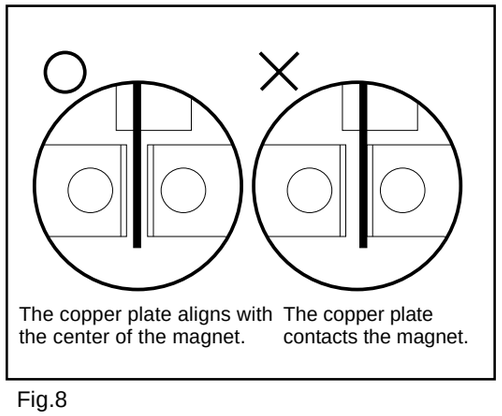


Fig.8

M-4 Replacing the Pulley "A" Set

■REMOVAL

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers."(Figs. 1,2)

(2) Remove a nut from the pulley "B" shaft and two bolts from the pulley "A" shaft and the frame, and remove the workload frame metal base together with the workload unit reinforcing metal base.(Fig. 3)

(3) Remove the idler spring from the latch of the idler metal base.(Fig. 4)

(4) Loosen the chain and detach it, and then remove the gear crank. Refer to the Steps (3) thru (8), Removing the Gear Crank, Section M-6 "Replacing the Crank Set."

(5) Remove the pulley "A" fixing nut by using a box wrench.(Fig. 5)

(6) Detach the pulley "A" from the workload unit aluminum frame.(Fig. 5)

■ASSEMBLING

(1) Assemble the pulley "A" to the workload unit aluminum frame, by using the pulley "A" fixing nut.

(2) Mount the gear crank and the chain. Refer to Steps (1) thru (5), "Mounting the Gear Crank", Section M-6 "Replacing the Crank Set."

(3) Hang the idler spring on the latch of the idler.(Fig. 4)

(4) Fix the workload unit frame metal base to the pulley "B" shaft by using a nut and to the pulley "A" shaft by using a bolt, and then fix the metal base to the frame with bolts.(Fig. 3)

(5) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

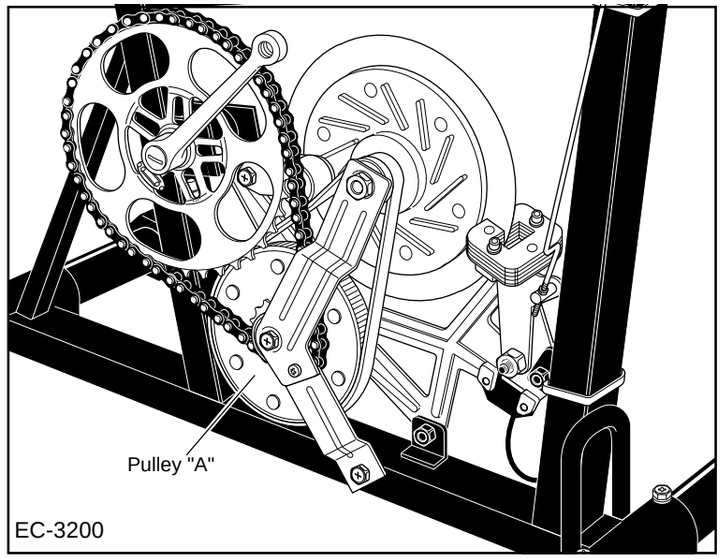


Fig.1

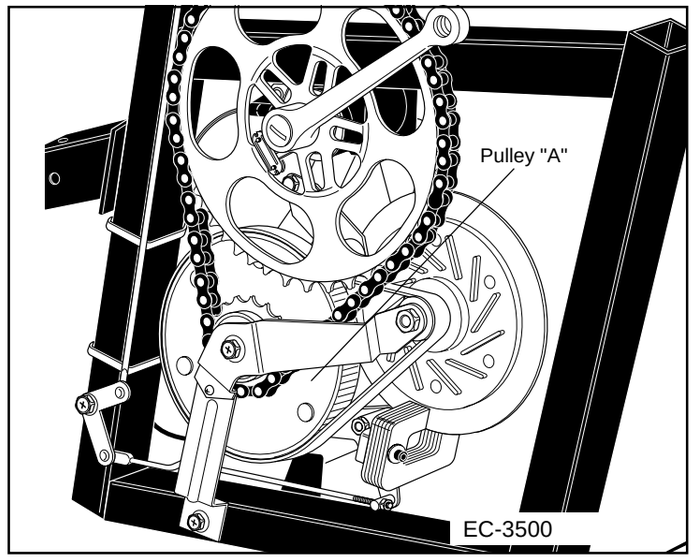


Fig.2

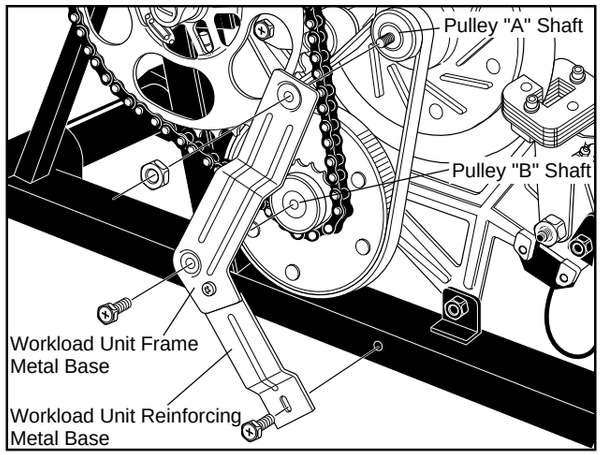


Fig.3

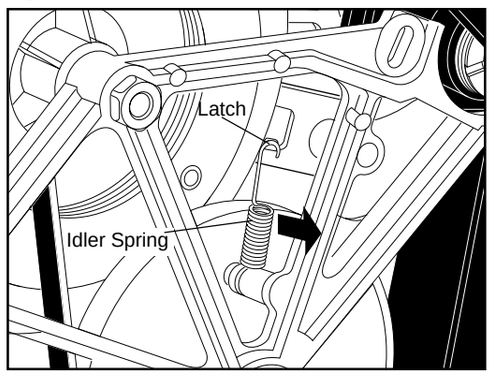


Fig.4

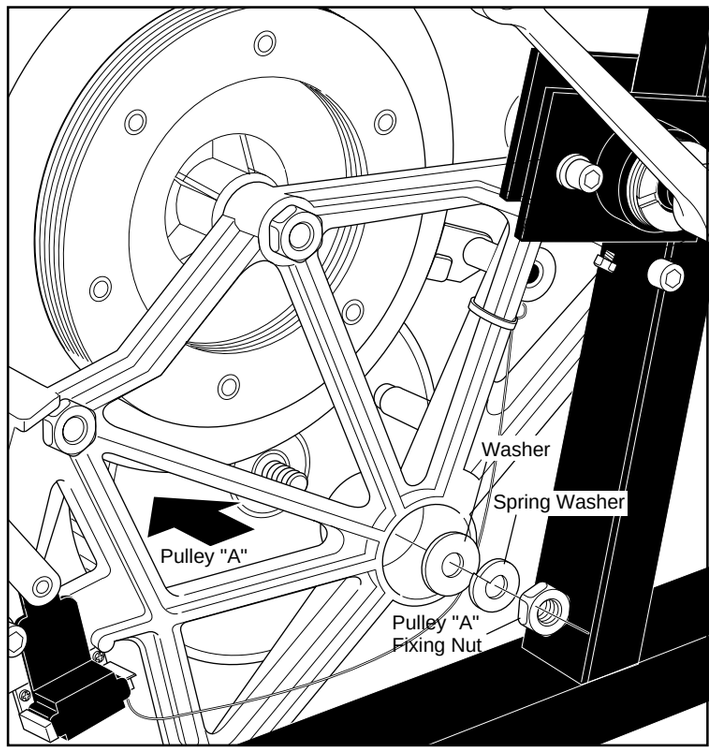


Fig.5

M-5 Replacing the Idler Set

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Cover."(Figs. 1 ,2)

(2) Remove the idler spring from the latch of the idler metal base.(Fig. 3)

(3) Loosen the idler mounting bolts, and detach the idler set.(Fig. 4)

(4) Mount a brandnew idler set by using an idler mounting bolt.

(5) Hang the idler spring on the latch of the idler to give tension to the belt.(Fig. 3)

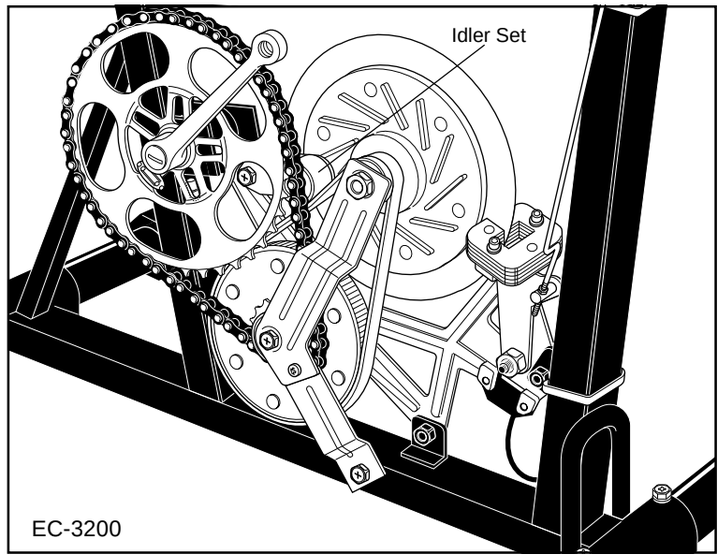


Fig.1

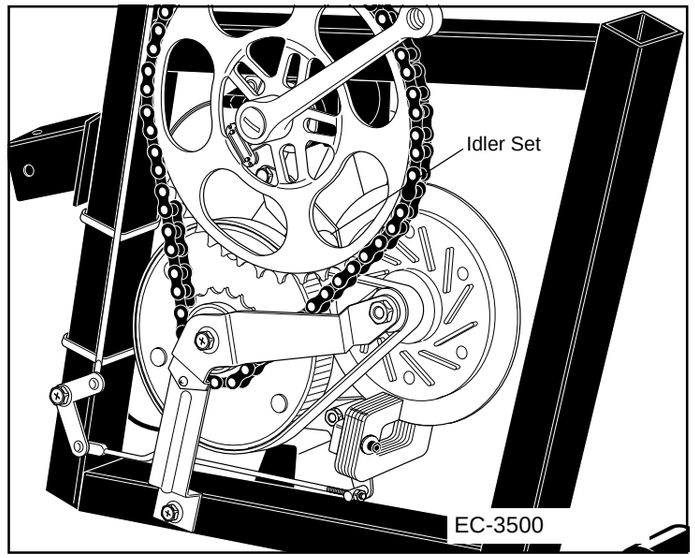


Fig.2

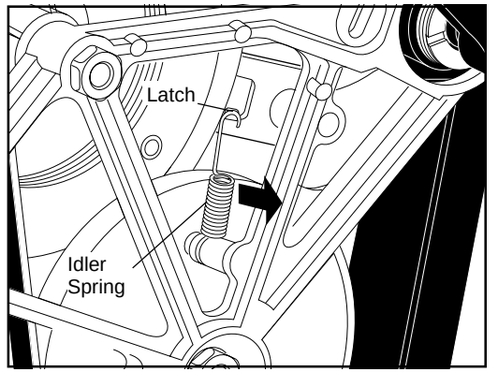


Fig.3

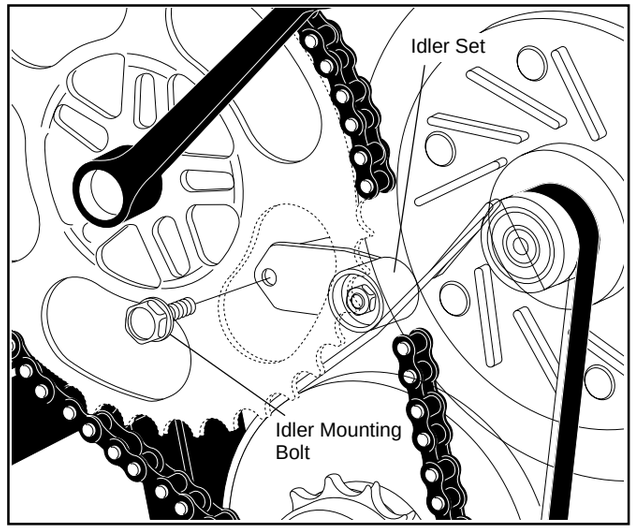


Fig.4

M-6 Replacing the Crank Set 1

■Removing the Gear Crank (Crank)

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers." (Figs. 1 ,2)

(2) Remove a nut from the pulley "B" shaft and two bolts from the pulley "A" shaft and the frame, and remove the workload frame metal base together with the workload unit reinforcing metal base(Fig. 3)

(3) Loosen the cross-recessed head hexagon bolt which presses the workload unit aluminum frame to the hanger pipe, until the leading edge of the bolt screw is concealed within the aluminum frame.(Fig. 4)

(4) Loosen the four workload unit fixing bolts which fix the workload unit aluminum frame to the unit, by using a hexagon wrench.(Fig. 5)

Caution:Never remove the workload unit fixing bolts, but just loosen them.

(5) Slide the workload unit aluminum frame toward the side of hanger pipe, and loosen the tension of chain to detach it. First, detach the chain at the upper part of the large gear, and then rotate the crank forward to detach the entire chain.(Fig. 6)

(6) Use a coin to remove the crank cap.(Fig. 7)

(7) Remove the crank nut by using a cotterless gear crank removing/ fastening tool and a spanner.(Fig. 8)

- to be continued on the next page -

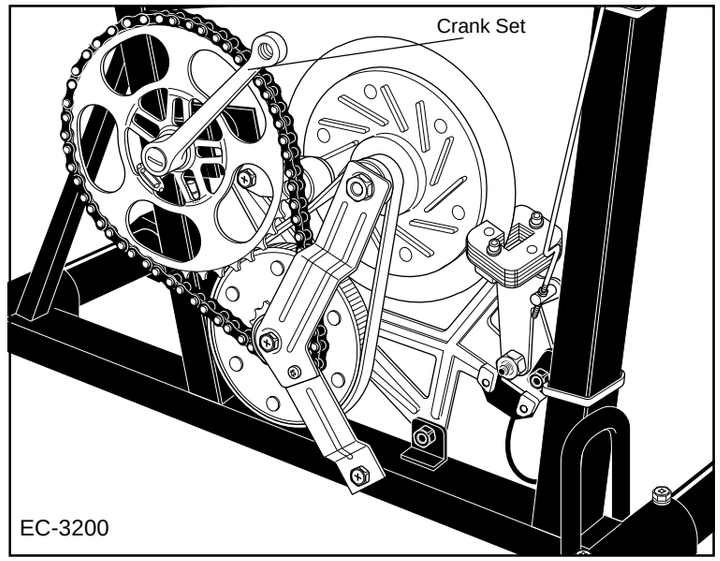


Fig.1

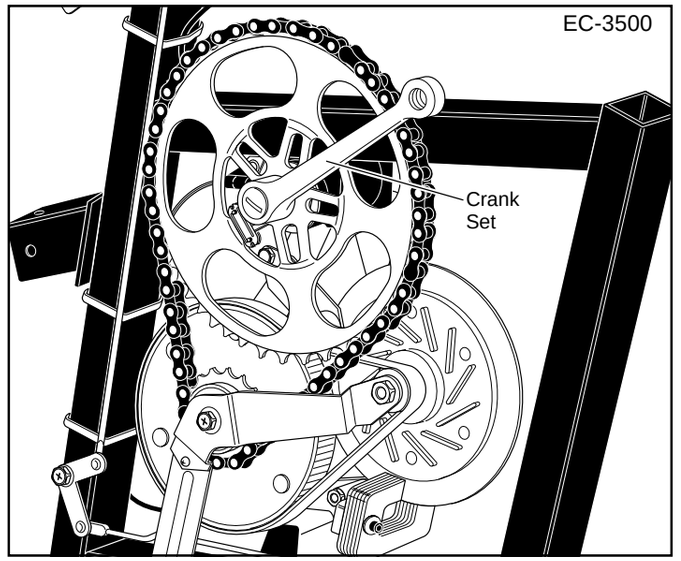


Fig.2

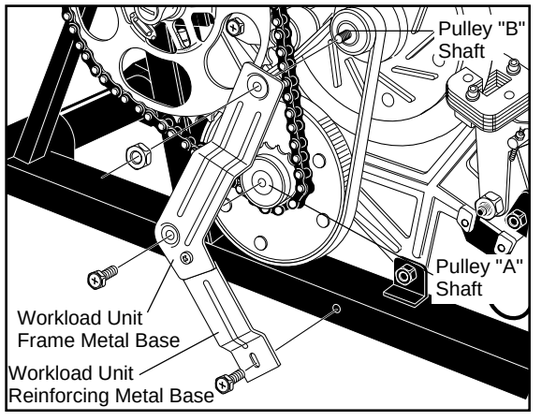


Fig.3

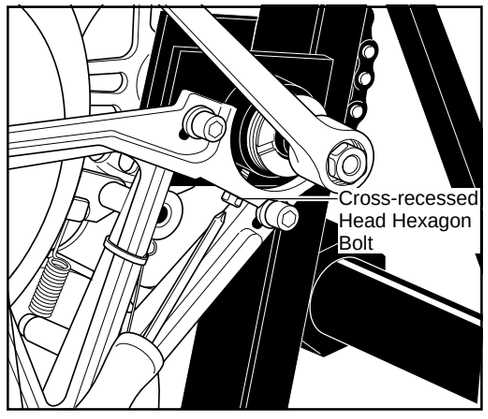


Fig.4

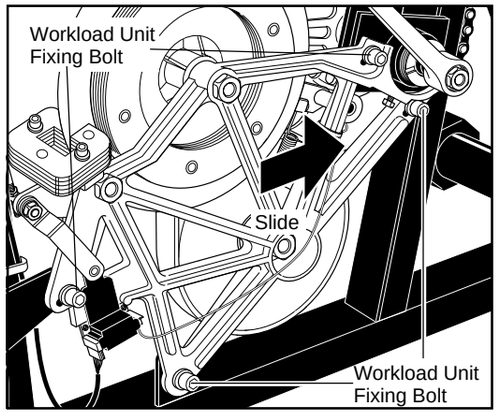


Fig.5

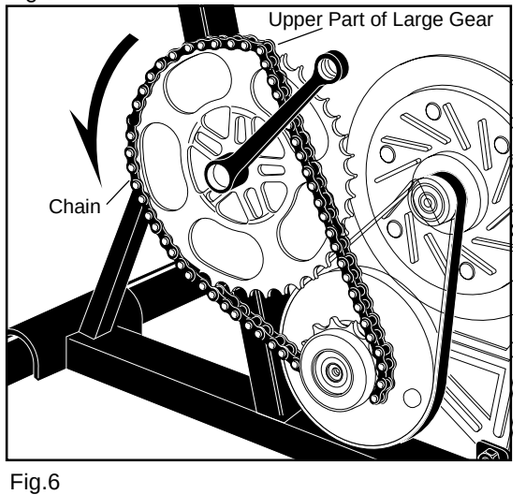


Fig.6

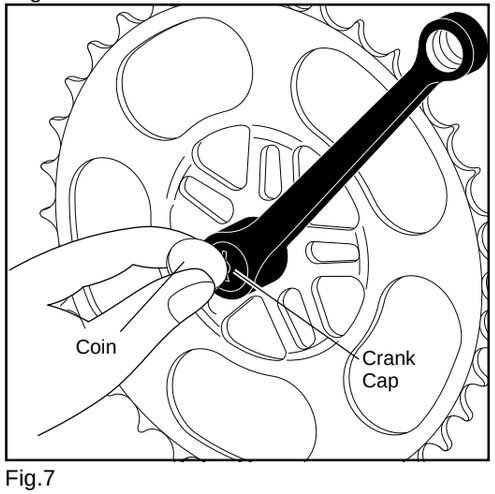


Fig.7

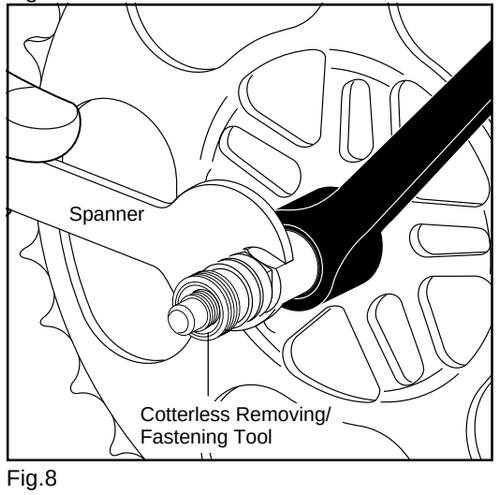


Fig.8

M-6 Replacing the Crank Set 2

(8) Change the side of the cotterless removing/fastening tool, and use it to remove the gear crank (crank) from the crank shaft.(Fig. 9)

■Assembling the Gear Crank (Crank)

(1) Mount the gear crank (crank) to the crank shaft.

(2) Securely fasten the crank nut by using a socket wrench (or by a cotterless removing/fastening tool and a spanner).(Fig. 8)

(3) Fasten the crank cap by using a coin, etc.(Fig. 7)

(4) The chain should be first set on the free wheel, and then on the upper part of the large gear. A forward rotation of the crank will enable the complete setting of the gear.(Fig. 10)

(5) Adjust the tension of chain. Fasten the cross-recessed-head hexagon bolt to press the aluminum frame to the hanger pipe.(Fig. 4) The tension of chain should be adjusted as illustrated in Fig. 11.

* Be careful about excessive tensioning of the chain. After completing the adjustment, fasten the four workload unit fixing bolts with a hexagon wrench.(Fig. 5)

(6) Fix the workload frame metal base to the pulley "B" shaft with a nut, and to the pulley "A" shaft with a bolt, fix it to the frame with bolts.(Fig. 3)

(7) Adjust the clearance between the magnet mounted on the large gear and the CDC sensor, and also adjust the positions of the indication lines, by referring to Step (5) Section E-2 "Replacing the CDC Sensor."

(8) Rotate the crank, and check if the number of pedal rotations is displayed on the control unit.

(9) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

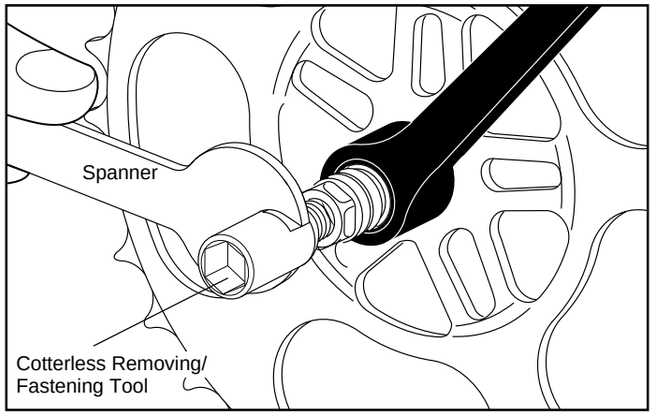


Fig.9

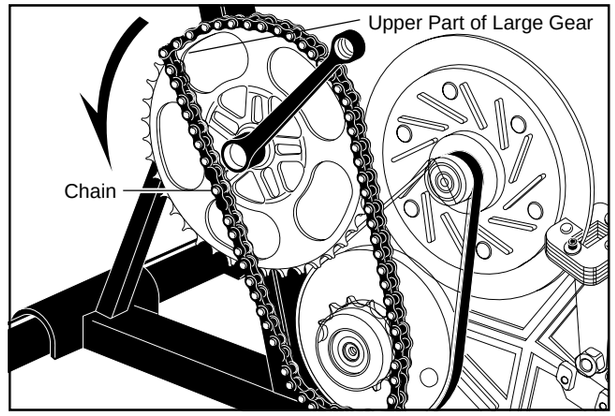


Fig.10

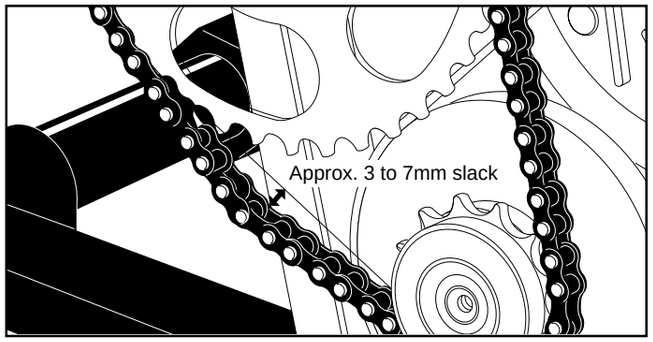


Fig.11

M-7 Replacing the BB Set

■REMOVAL

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers." (Figs 1 ,2)

(2) Remove the gear crank/crank from the crank shaft, by referring to the Section M-6 "Replacing the Crank Set."

(3) Remove the BB cup locking with a hanger rotating jig.(Fig. 3)

(4) Remove the BB adjusting cup, by using a pin face wrench.(Fig. 4)

(5) Remove the crank shaft (BB axle).

(6) Remove the BB fixing cup, by using the hanger rotating jig.(Fig. 5) The CDC sensor metal base will be removed at the same time.

■ASSEMBLING

(1) Check if no retainer remains within the hanger, and mount the BB fixing cup. Be sure that the CDC sensor metal base should first be mounted before mounting the BB fixing cup.

(2) Assemble the crank shaft(BB axle), retainer, BB fixing cup and BB adjusting cup, BB cup locking and CDC sensor as depicted in Fig. 6.

(3) Mount the gear crank/crank, by referring to Mounting Steps (1) thru (6), Section M-6 "Replacing the Crank Set." Also, adjust the tension of the chain.

(4) Adjust the following:

1. Align the line on the CDC sensor with the center of the line on the magnet.(Figs. 7 ,8)
2. Adjust the clearance between the CDC sensor surface and the magnet surface to beapprox.2mm.(Fig. 8)

* When the specified clearance has not been established, bend the metal base to have the celarance.

(5) Rotate the crank, and check if the number of pedal rotations is displayed on the control unit.

(6) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

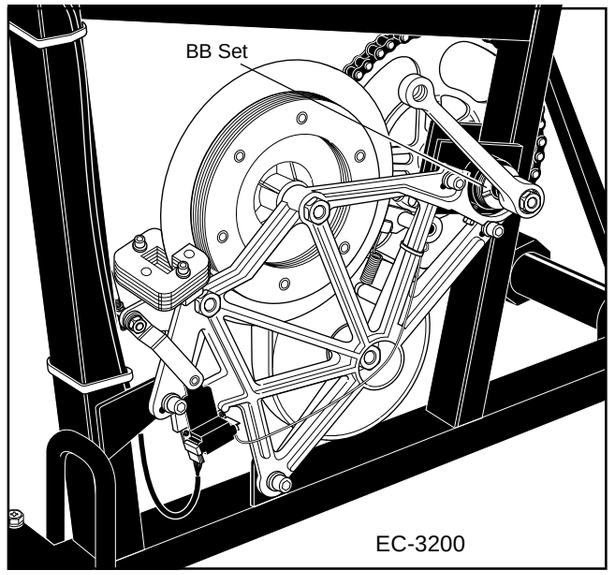


Fig.1

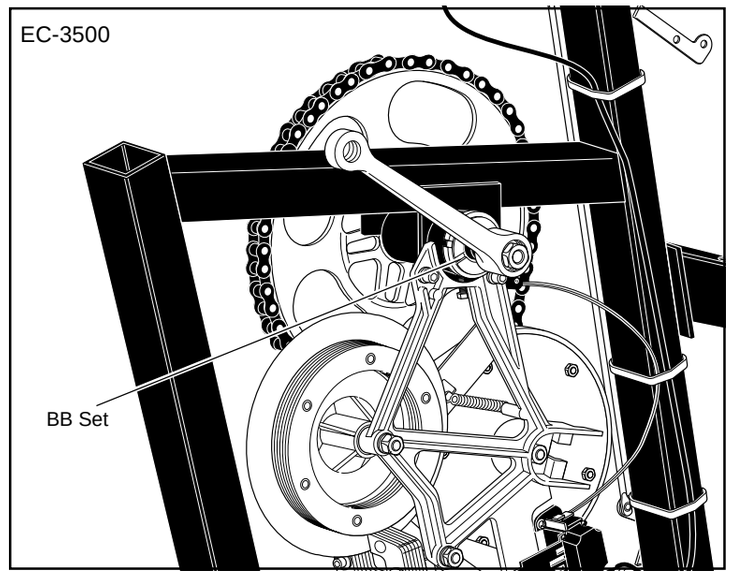


Fig.2

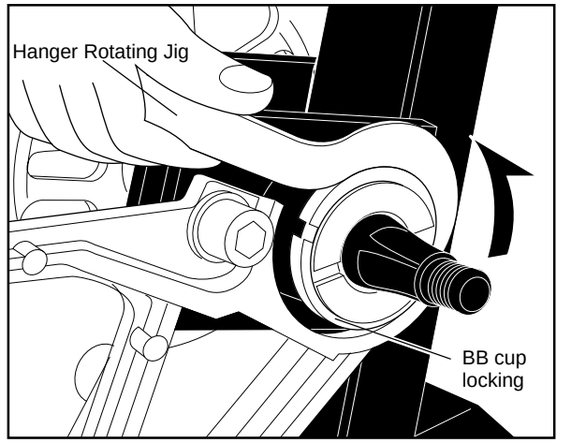
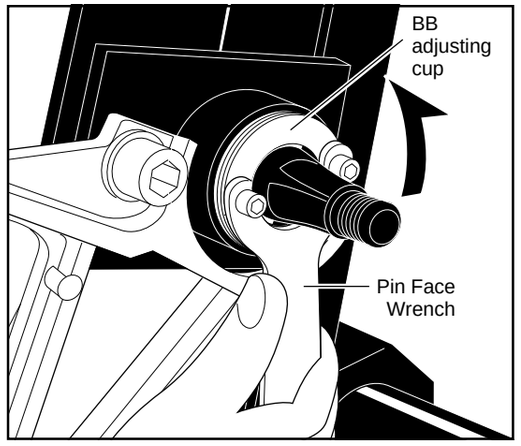


Fig.3



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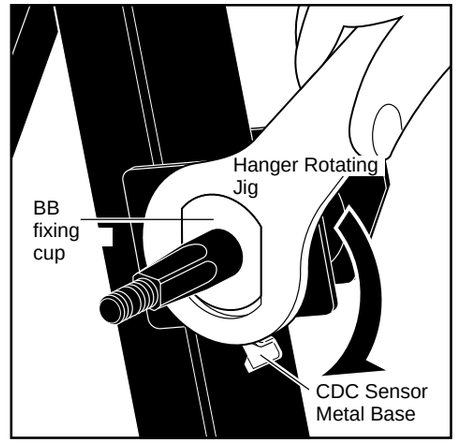


Fig.5

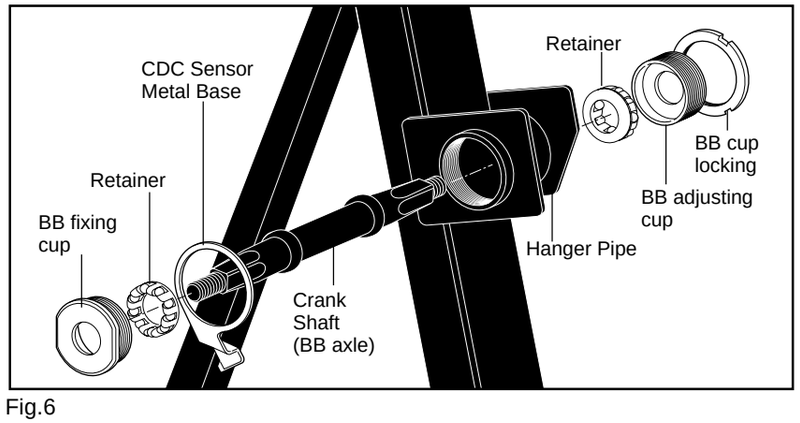


Fig.6

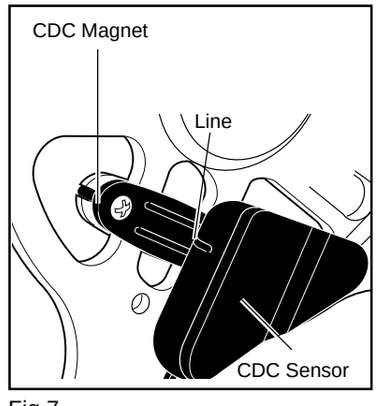


Fig.7

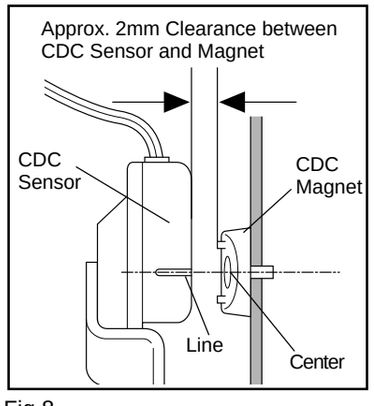


Fig.8

M-8 Replacing the Magnet Set

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers."(Figs. 1 ,2)

(2) Move the workload shift lever to the Point 8 to position the magnet horizontally.(Fig. 3)

(3) Remove the bolts which fix the magnet to the magnet mounting base, by using a hexagon wrench, and remove a spring washer, a plane wahser and a magnet set.(Fig. 3)

(4) Put the magnet set on the magnet mounting base, and make position adjustment against the copper plate in the following procedures:

1. Place the magnet set so that the inner side of the magnet can be positioned approx. 2mm inward of the outer edge of the copper plate.(Fig. 4)
2. The copper plate should position at the center of the gap of magnet.(Fig. 5)

* Rotate the copper plalte to check if it does not contact the magnet at any position during the rotation.

(5) Fix the magnet set to the magnet mounting base, by using a cap bolt, a spring washer, and a plane washer.(Fig. 3)

(6) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

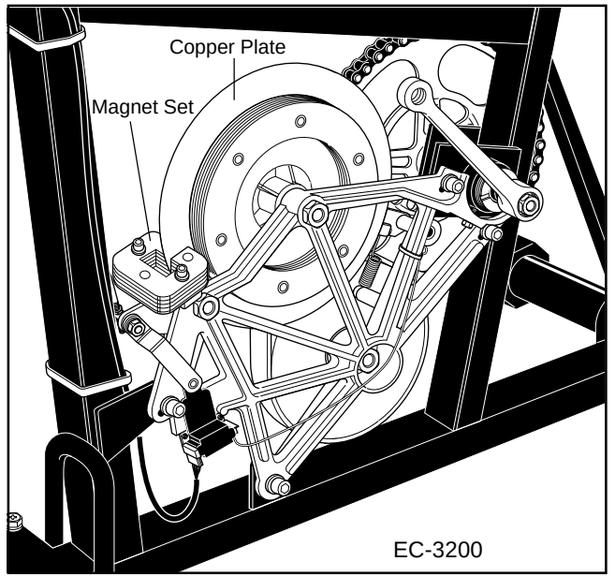


Fig.1

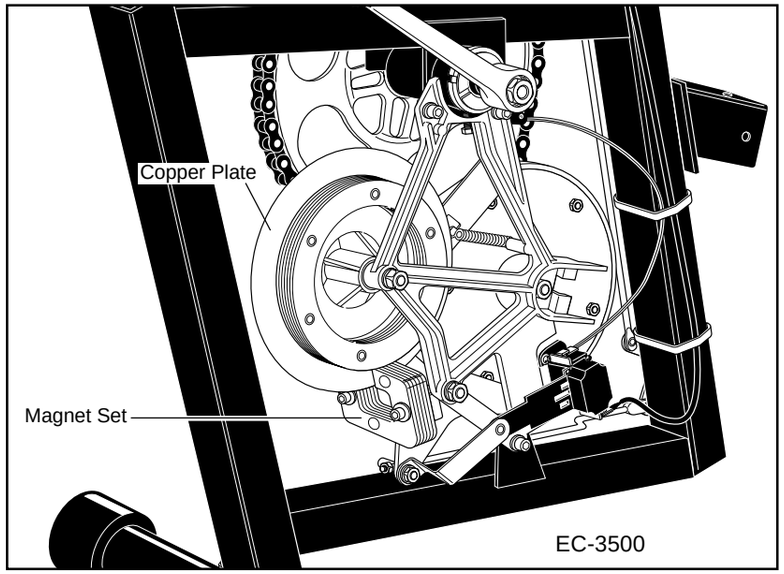


Fig.2

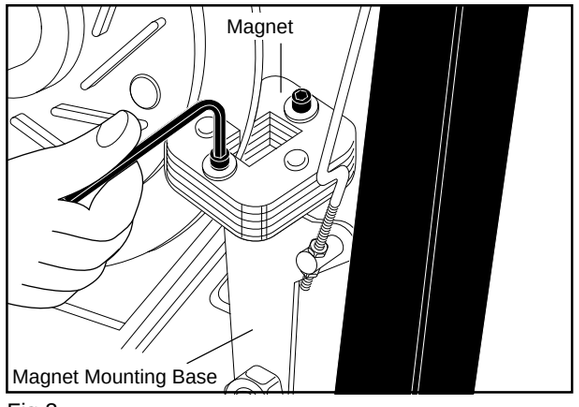


Fig.3

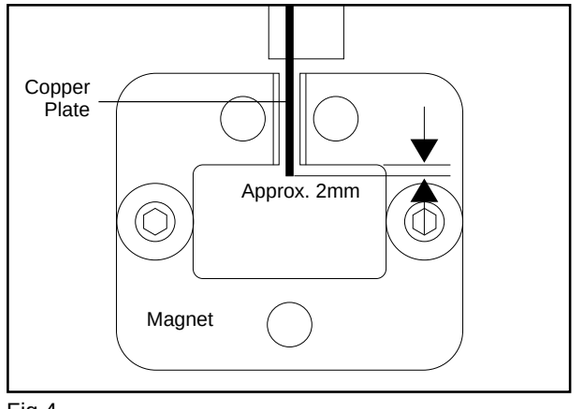


Fig.4

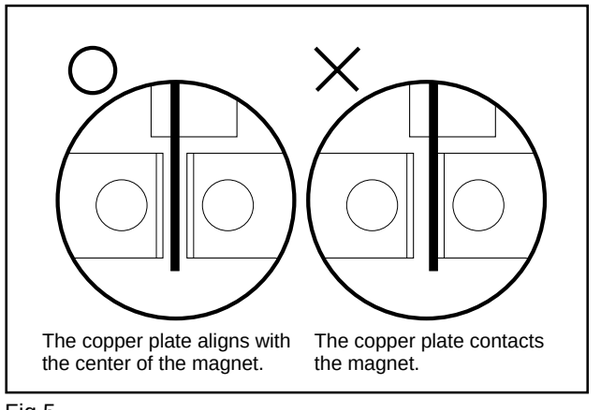


Fig.5

M-9 Replacing the Workload Shift Lever

(1) Remove the frame cover, by referring to the Section D-1 "Removing the Frame Covers."(Figs. 1,2)

(2) Loosen and remove the joint nut from the joint on the magnet mounting base.(Fig. 3)

(3) Move the workload shift lever to pull the joint bar out of the joint.

(4) Remove the workload shift lever mounting bolt and detach the workload shift lever set.(Fig. 4)

(5) Mount a brandnew workload shift lever with the mounting bolt.

(6) Insert the joint bar through the joint, and set the magnet mounting base horizontal (point 8).

(7) Move the workload shift lever down until it contacts the stopper on the frame, and with this condition, fix the joint bar to the joint with two nuts from both upper and lower sides.(Fig. 3)

(8) Assemble the frame cover, by referring to the Section D-1 "Removing the Frame Covers."

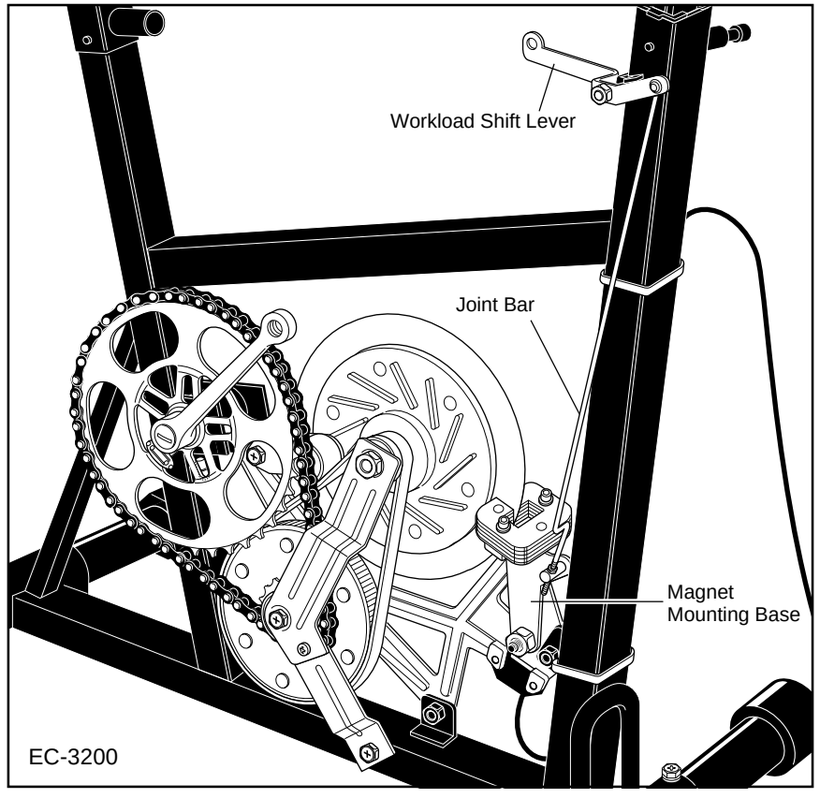


Fig.1

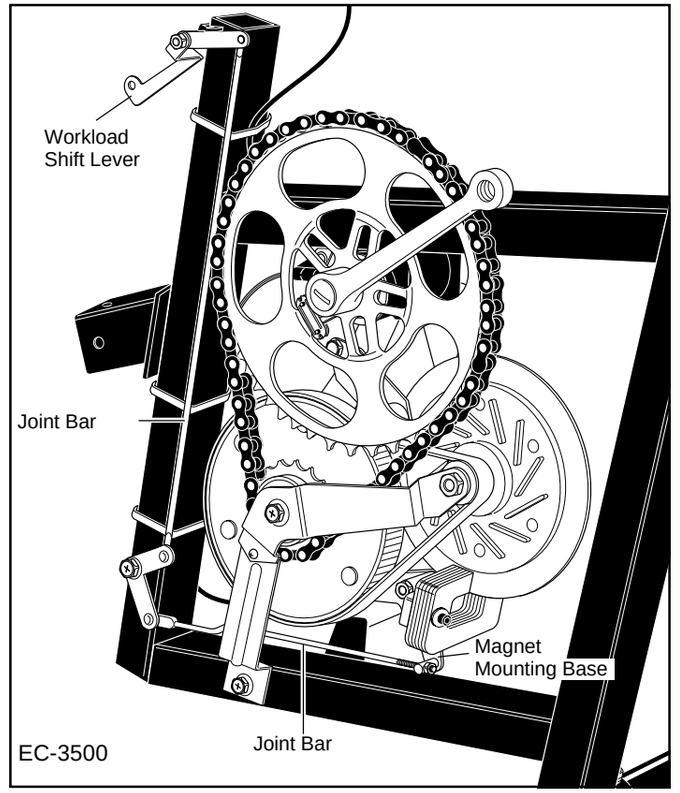
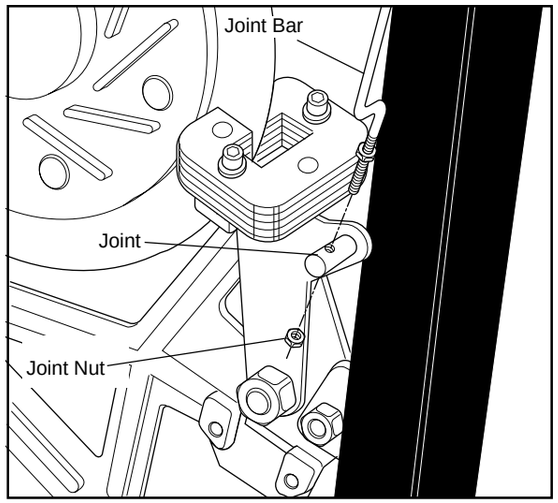


Fig.2



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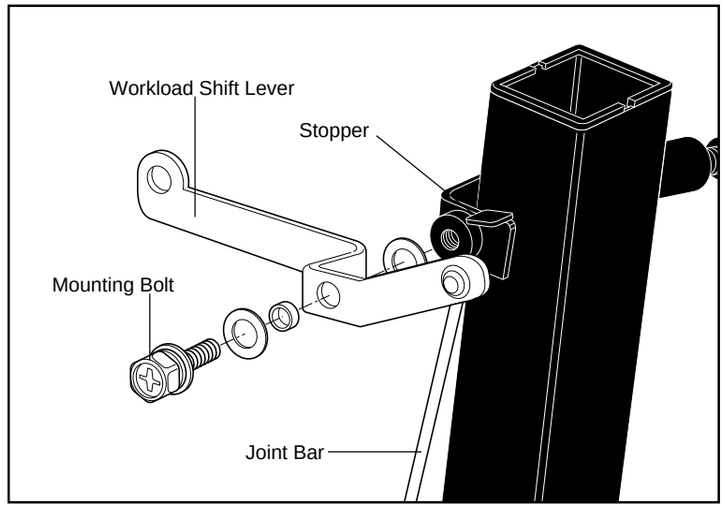


Fig.4

M-10 Replacing the Post Spacer

■REMOVAL

(1) Remove the center cover, by referring to the Section M-17 "Removing the EC-3200 Center Cover."

(2) Only in the case of the seat post spacer, remove the lock nut located at the side of the frame, and then remove the adjust screw.(Fig. 1)

(3) Only in the case of the seat post spacer, remove the spacer spring.(Fig. 1)

(4) The post spacer can be pulled out upward while the boss at the side of the post is being pressed in with a screwdriver (for both right and left sides).(Fig. 2)

■ASSEMBLING

(1) Insert a brandnew post spacer.

(2) For the seat post spacer, perform the following adjustments:

1. Insert the spacer spring, and slightly fasten the adjust screw.(Fig. 3)
2. Tentatively insert the seat post, and adjust the adjust screw so that the post will drop slowly.
3. Fasten the lock nut to lock the adjust screw.

(3) Assemble the center cover, by referring to the Section M-17 "Removing the EC-3200 Center Covers."

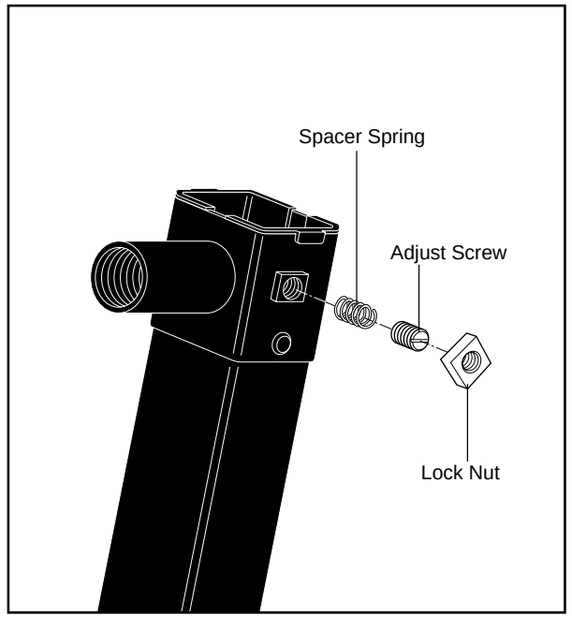


Fig.1

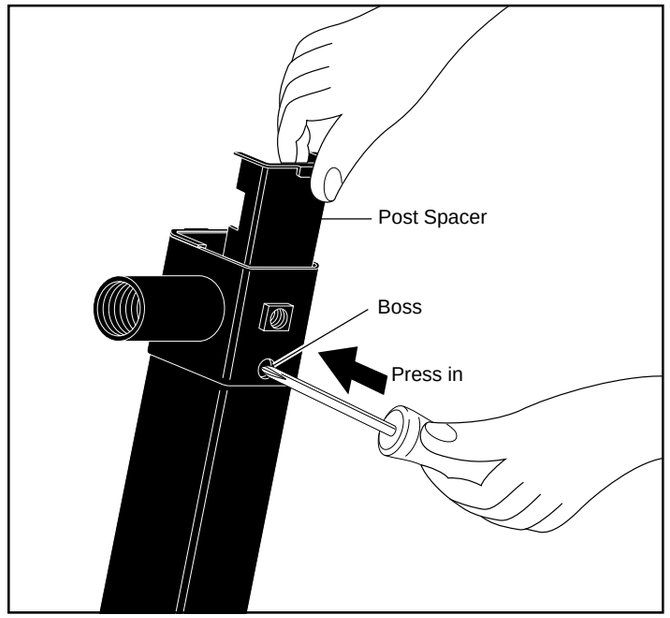


Fig.2

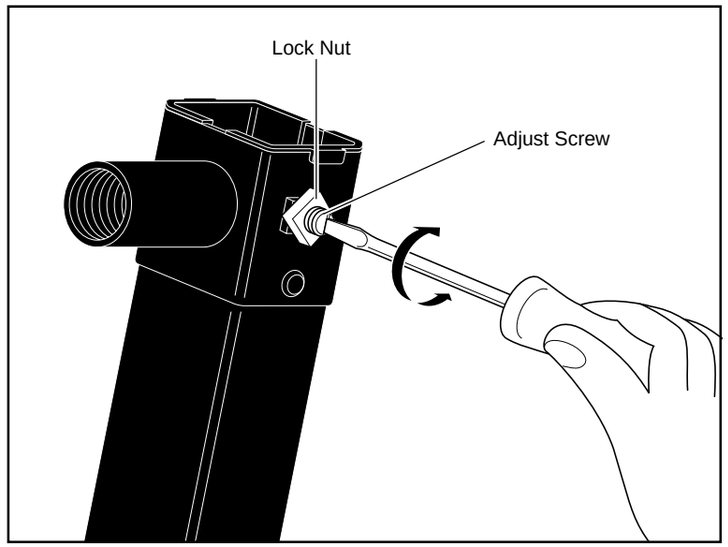


Fig.3

M-11 Adjusting the Spacer Spring

(1) Remove the center cover, by referring to the Section M-17 "Removing the EC-3200 Center Cover."

(2) Slightly loosen the lock nut at the side of the frame.(Fig. 1)

(3) Fasten the adjust screw so that the seat post will drop slowly.

(4) Fasten the lock nut to fix the adjust screw.

(5) Assemble the center cover, by referring to the Section M-17 "Removing the EC-3200 Center Cover."

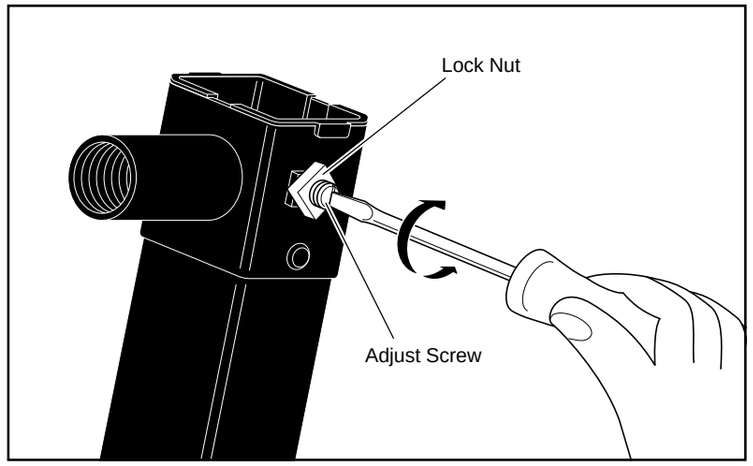


Fig.1

M-12 Replacing the Inner Pipe Spacer

■REMOVAL

(1) Slide the seat pipe to the utmost back end, and set it at a position where the screw head can bee seen through the hole on the top surface of the seat pipe.

(2) Loosen the stopper screw to remove it.(Fig. 1)

(3) Pull out the seat pipe and the inner pipe speacer A, while thedepressing the two bosses, located at the right and left sides of the seat pipe, at the sametime.(Fig. 2)

(4) Remove the spacer "B" at the end of the inner pipe.(Fig. 3)

■ASSEMBLING

(1) Set a brandnew inner spacer "B" and a inner pipe spacer "A" at the end of the inner pipe.(Fig. 4)

(2) Inesert the innper pipe together with the pipe spacers into the seat pipe.

(3) Align the hole on the top surface of the seat pipe with the screw hole, and apply the stopper screw. (Fig. 1)

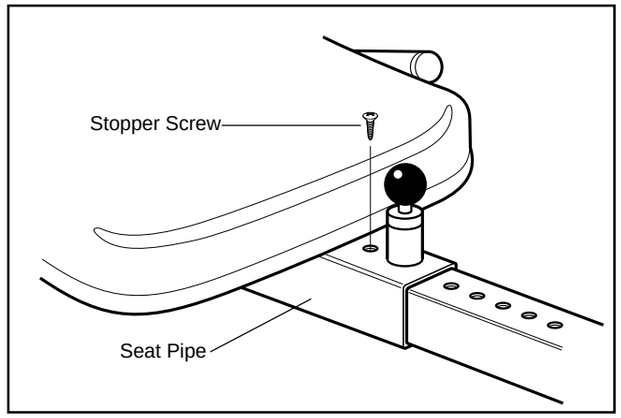


Fig.1

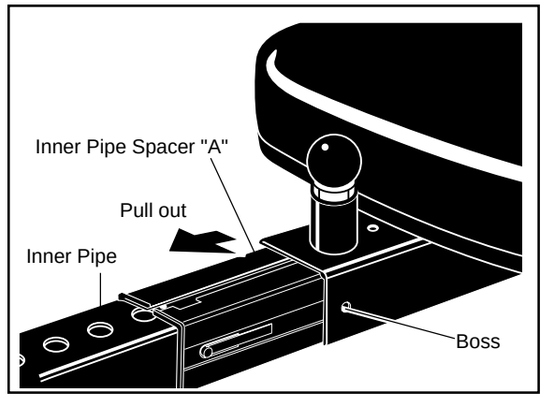


Fig.2

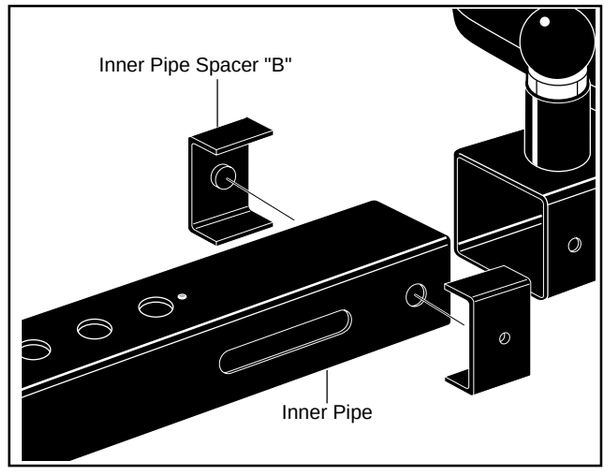


Fig.3

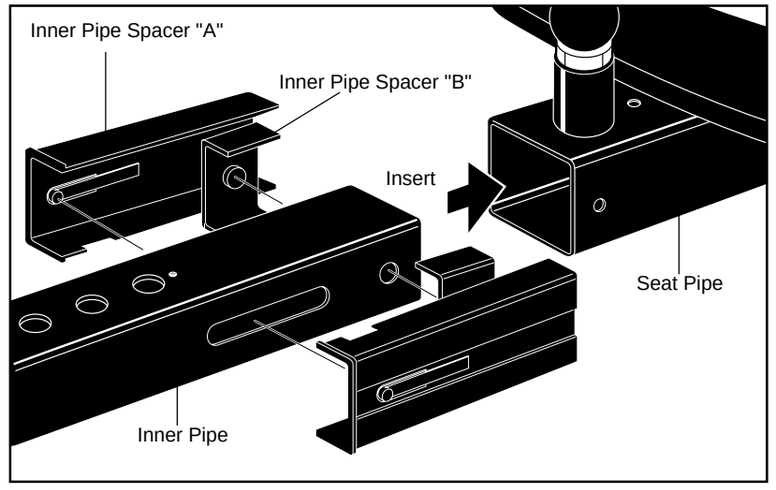


Fig.4

M-13 Replacing the Vertical Pipe Spacer

(1) Remove the seat hite lock knob, and pull out the rear support pipe.(Fig. 1)

(2) Remove the rear support pipe spacer at the rear support pipe insertion area on the top surface of the seat pipe. The rear support pipe spacer is fixed on the pipe with an adhesive tape.

(3) Apply and set a brandnew rear support pipe spacer with an adhesive tape.(Fig. 2)

(4) Insert the rear support pipe, and fix it with the seat hite lock knob.

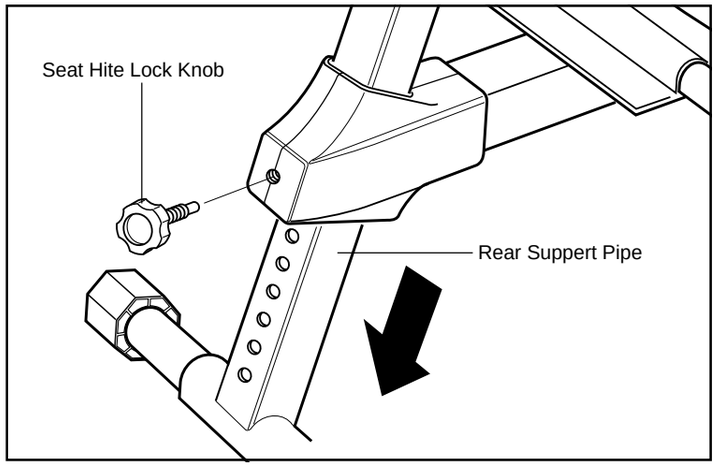


Fig.1

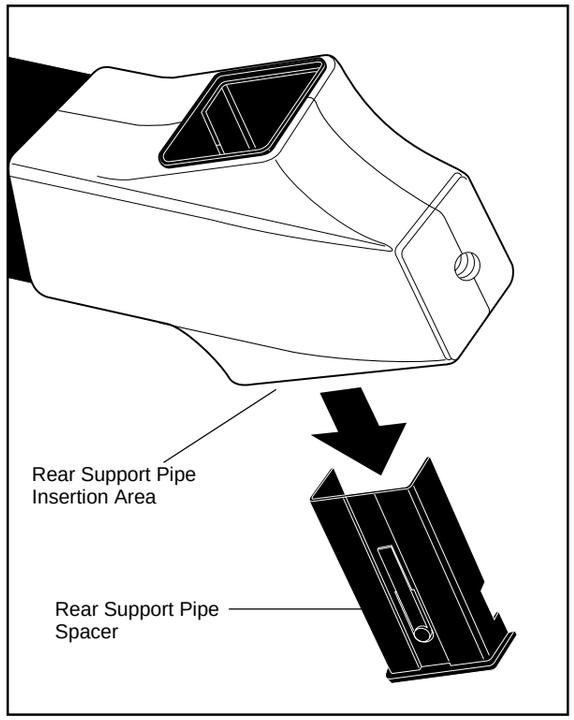


Fig.1

Fig.1

M-14 Replacing the Seat Post Knob

(1) Pull out the seat post

(2) Remove the seat post knob by loosening the guide screw.

(3) Mount a brandnew seat post knob by securely fastening the guide screw.

(4) Insert the seat post.

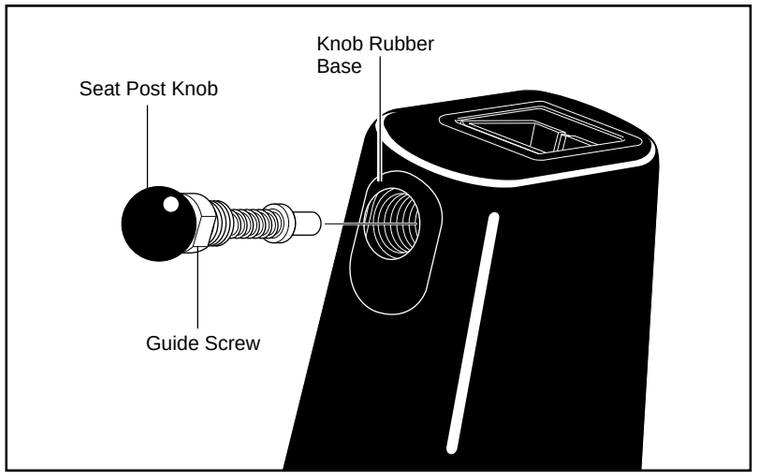


Fig.1

M-15 Replacing the Lock Pin

(1) Remove the lock pin by loosening the guide screw.

(2) Mount a brandnew lock pin by securely fastening the guide screw.

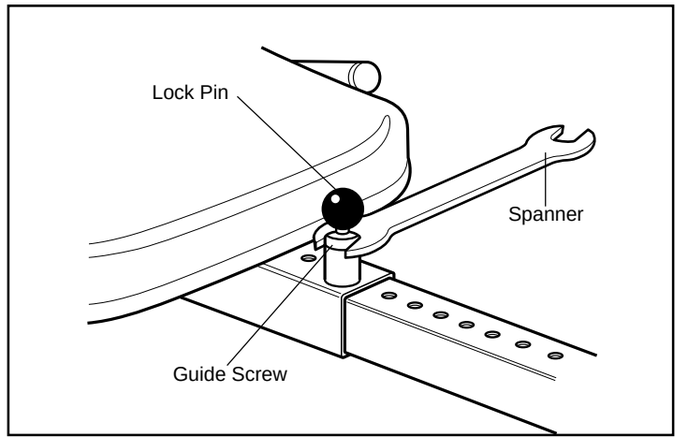


Fig.1

M-16 Replacing the Caster & Level Adjuster

(1) Loosen the screw and remove the caster pipe (rear leg with level adjuster) from the leg pipe.

(2) The caster has been press-fitted into the caster pipe (rear leg with level adjuster). It can be removed by hammering it through a wooden block.(Fig. 1)

(3) Press fit a brandnew caster (rear leg with lever adjuster) with a hammer and a wooden block.(Fig. 2)

(4) Mount the caster pipe (rear leg with level adjuster) to the frame bottom. (Refer to the Operating Instructions.)

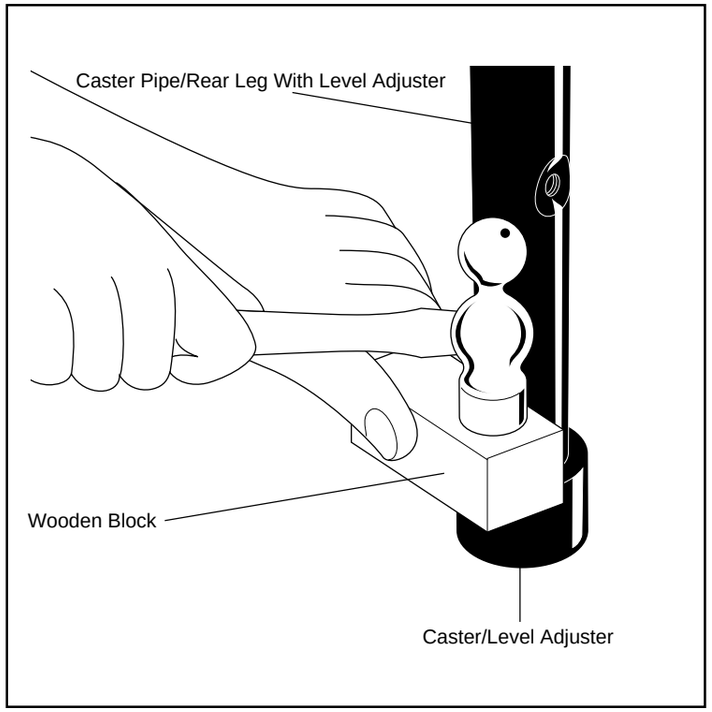


Fig.1

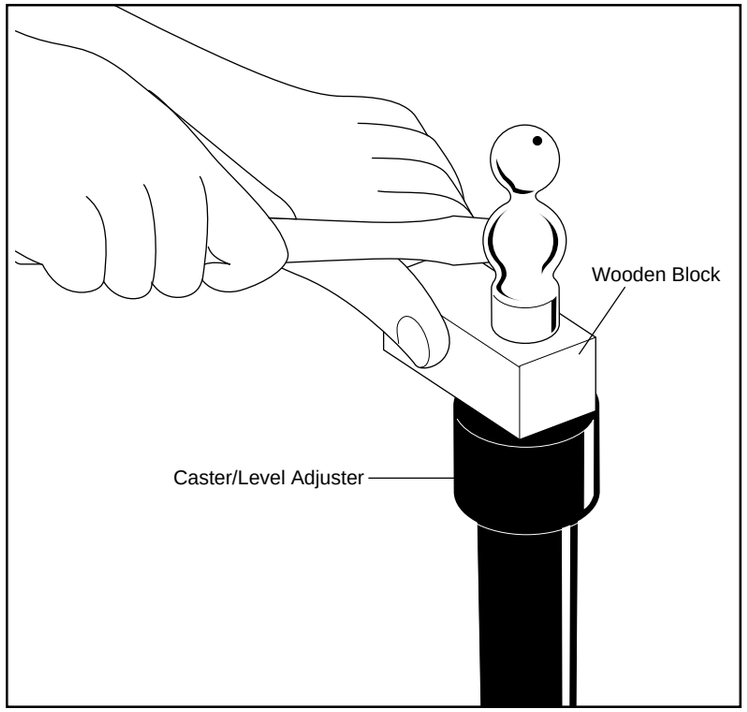


Fig.2

M-17 Removing the EC-3200 Center Cover

(1) Remove the 7P cable connector from the control unit, and also remove the cable from the cable holder of the handlebar post.(Fig. 1)

(2) Slightly loosen the handlebar post screw, and pull the handlebar post out of the unit frame.(Fig. 2)

(3) Pull the seat post knob, and pull the seat post out of the main unit.(Fig. 3)

(4) Loosen the guide screw to remove the seat post knob.(Fig. 4)

(5) Remove the rubber base of the seat post knob.(Fig. 5)

(6) Loosen the screw and remove the workload shift knob.(Fig. 6)

(7) Slightly loosen the center cover fixing screws (8 pcs.), and remove the center cover while lifting it upward.(Fig. 7)

(8) Assembling of the center cover can be performed in the reversed procedures of the above.

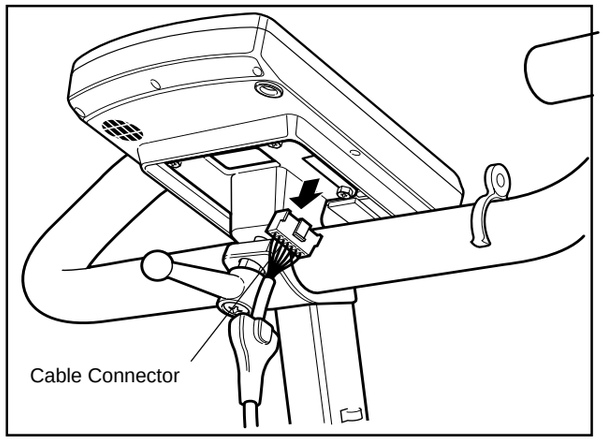


Fig.1

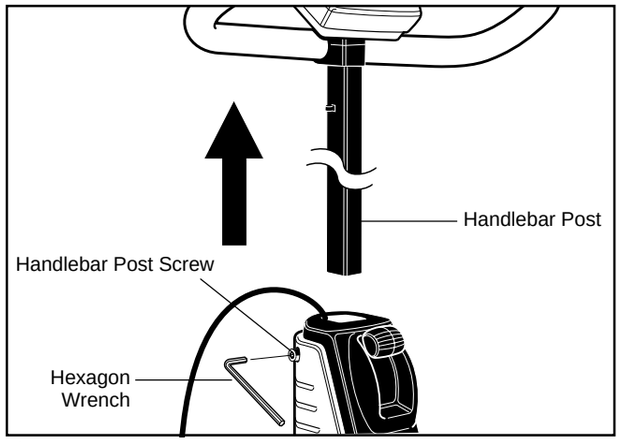


Fig.2

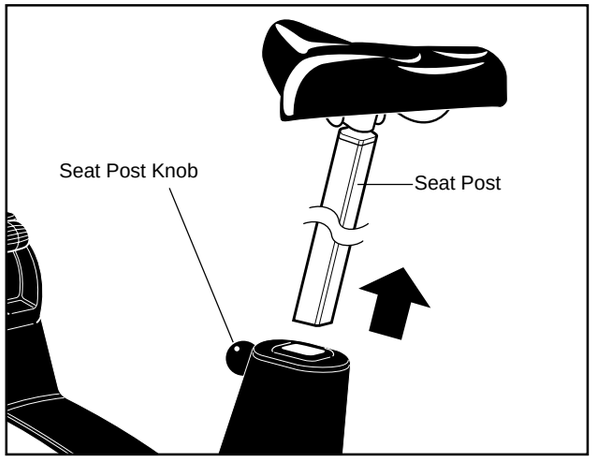


Fig.3

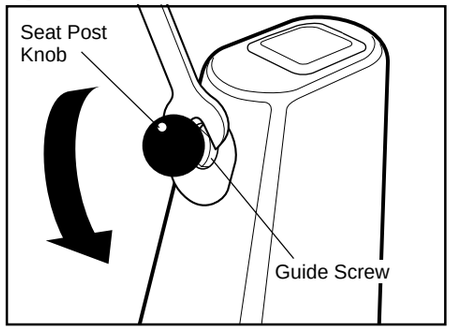


Fig.4

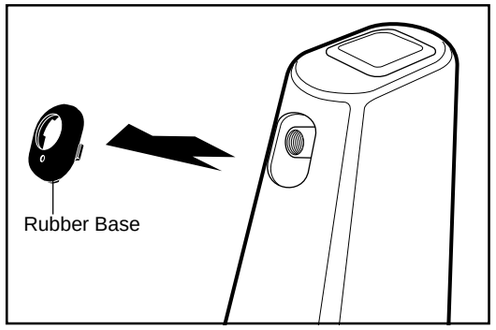


Fig.5

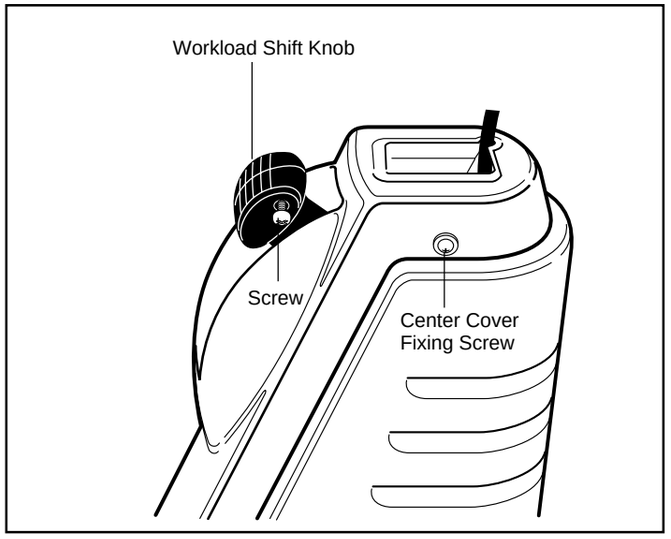


Fig.6

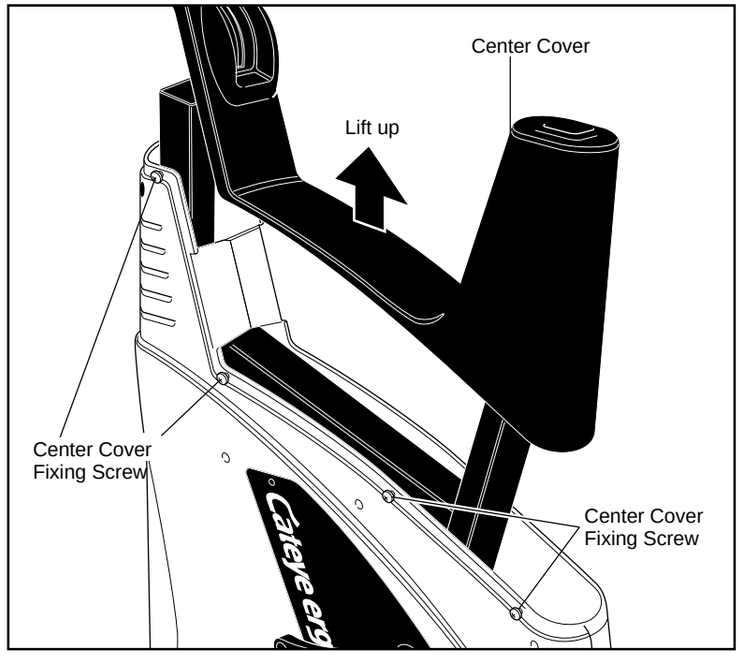


Fig.7

M-18 Removing the EC-3500 Center Cover

***When the pulse sensor is connected, remove it first.**

(1) Remove the control panel cover to detach the control panel.(Fig. 1)

(2) Remove the cable connector from the control panel.(Fig. 2)

(3) Remove the workload shift knob, by loosening two screws.(Fig. 3)

(4) Loosen the screws and remove the inner pipe from the joint metal base.(Fig. 4)

(5) Removing of the frame cover fixing screws will split the frame cover to right and left parts.(Fig. 5)

(6) Remove the flange of center cover from the frame cover, and pull the cover in the direction toward joint metal base.

(7) Assembling of the center cover can be performed in reversed procedure of the above.

* Pull the 7P cable connector out of the center cover through the hole on the cover, and tentatively hold it with an adhesive tape so that it may not be retructed.

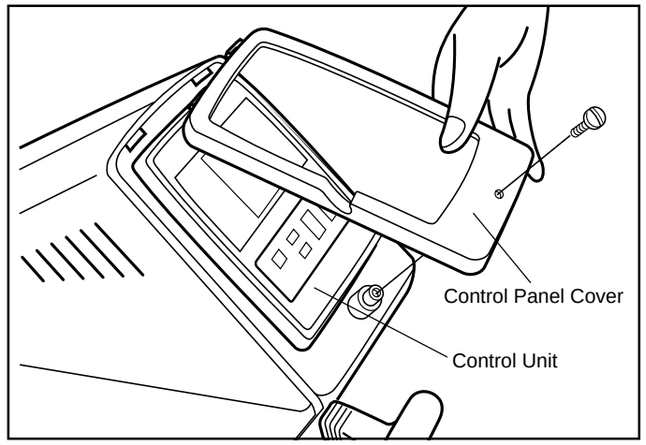


Fig.1

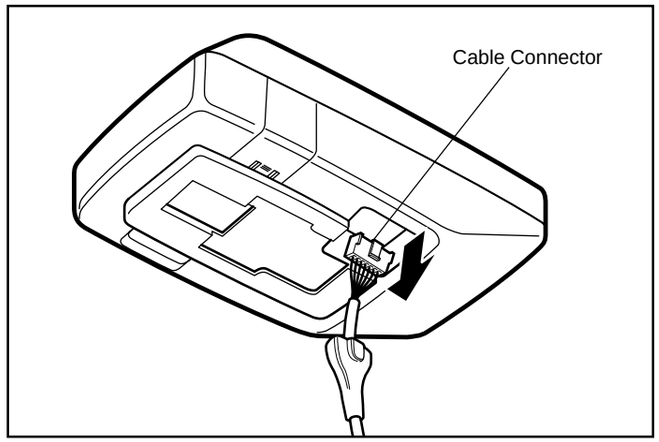


Fig.2

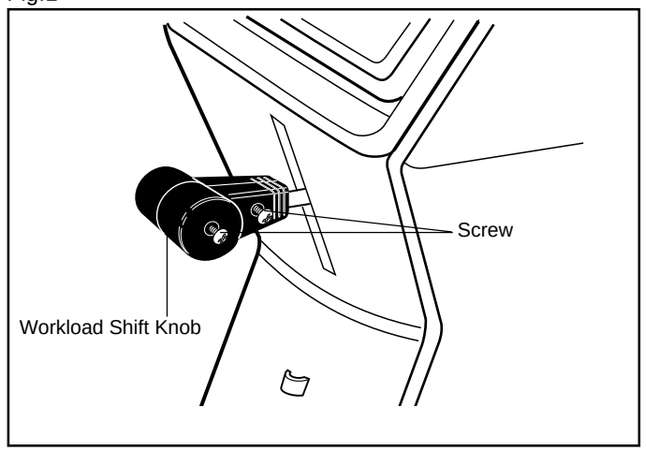


Fig.3

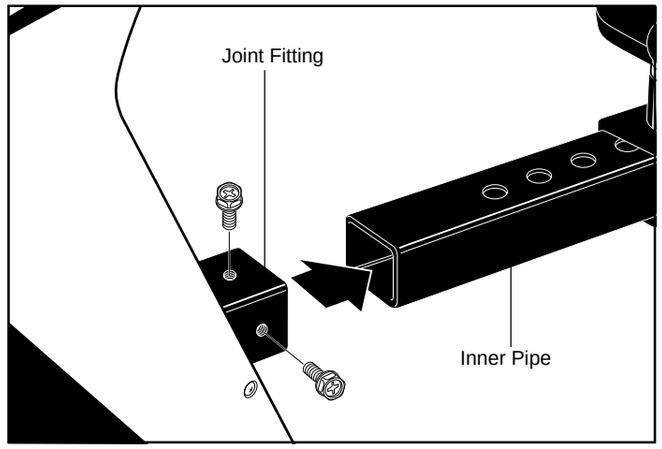


Fig.4

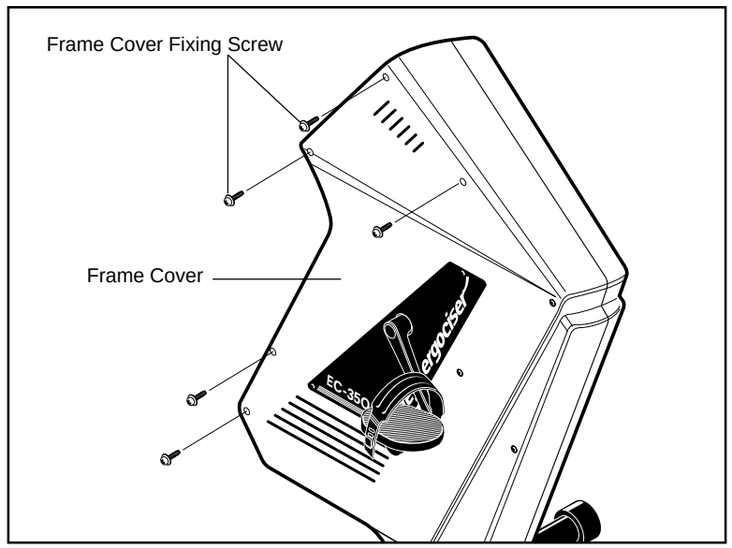


Fig.5

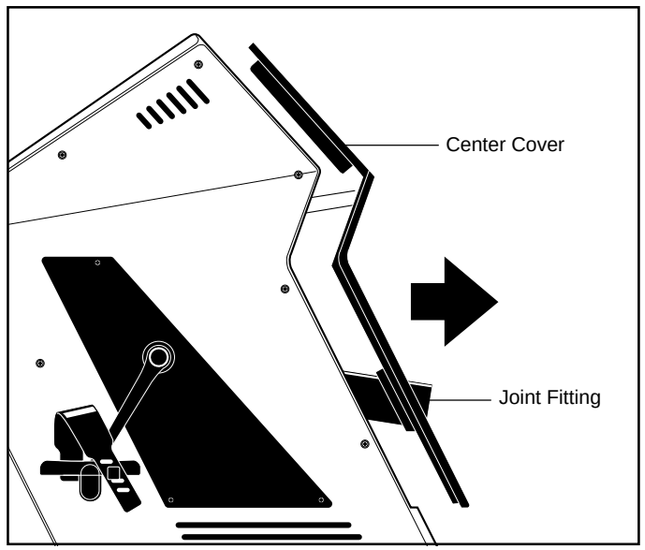


Fig.6

M-19 Replacing the Handlebar Grip

(1) In case the handlebar grip is damaged, cut the grip with a thin cutting knife and peel it off the handlebar.(Fig. 1)

(2) Fit a brandnew handlebar grip onto the handlebar, utilizing compressed air from a compressor, etc. Press the grip into the handlebar while applying compressed air at one end.(Fig. 2)

* When a compressor is not available, apply a soap water on the handlebar, and insert the grip while twisting and pressing the grip.

* When the above replacing work is difficult to achieve, remove the handlebar before the work.

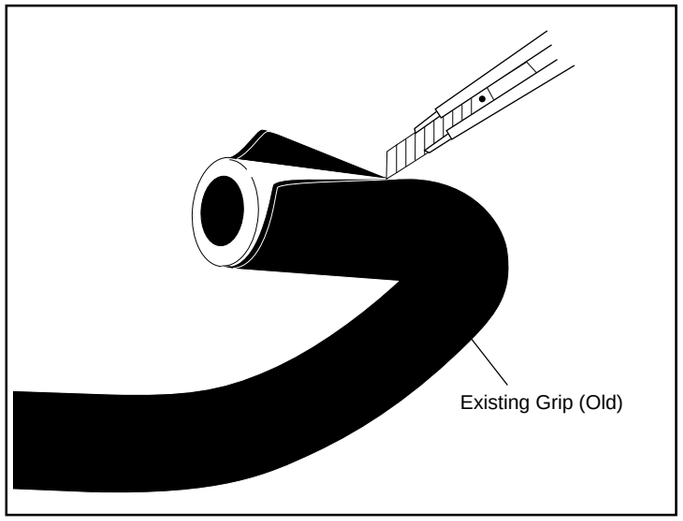


Fig.1

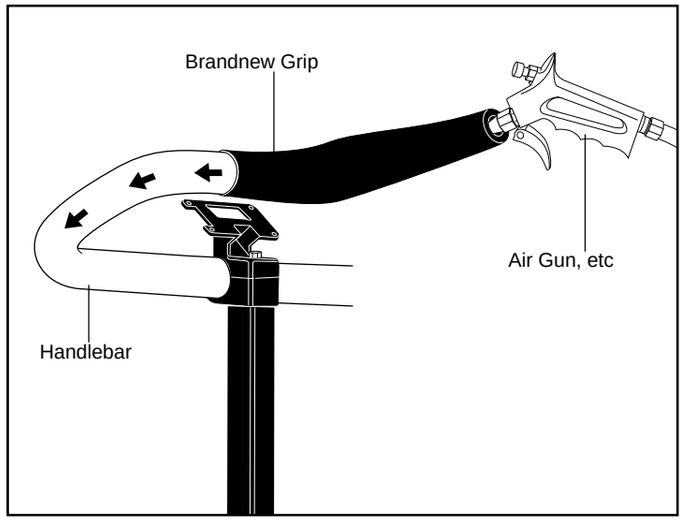
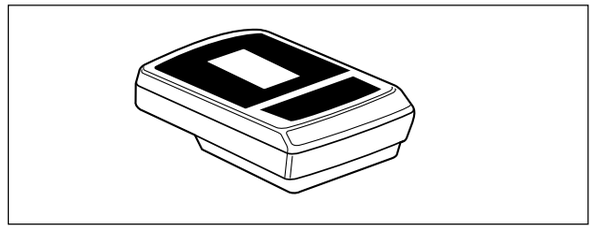
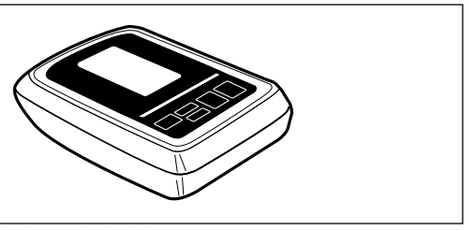


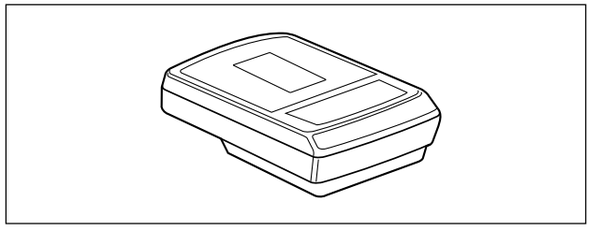
Fig.2



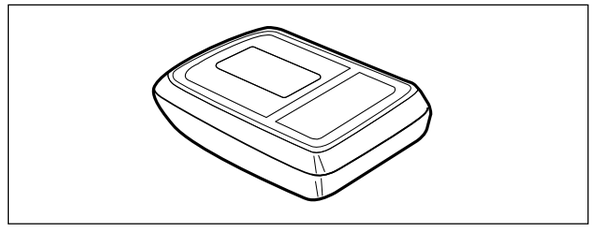
PNR.780-6801 EC-3200Control Unit (E)
PNR.780-6802 EC-3200Control Unit (G)
PNR.780-6806 EC-3200Control Unit (E) Black
PNR.780-6807 EC-3200Control Unit (G) Black
unit:pieces



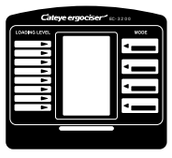
PNR.780-9206 EC-3500Control Unit (E) Black
PNR.000-0000 EC-3500Control Unit (G) Black
unit:pieces



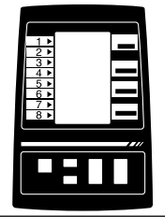
PNR.780-6809 EC-3200Control Unit Multi Black
PNR.780-6808 EC-3200Control Unit Multi Gray
unit:pieces



PNR.780-9208 EC-3500Control Unit Multi
unit:pieces



PNR.000-0000 EC-3200Decal (E)
PNR.000-0000 EC-3200Decal (G)
unit:seats



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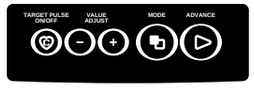
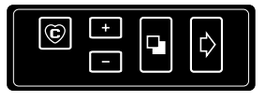
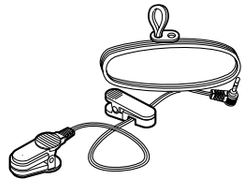
PNR.000-0000 EC-3500Decal (G)
unit:seats



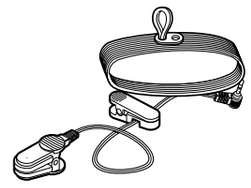
PNR.780-6811 EC-3200Button Panel (E)
PNR.780-6812 EC-3200Button Panel (G)
unit:seats



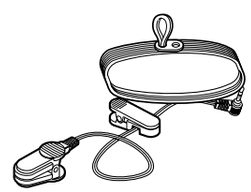
PNR.000-0000 EC-3500Button Sheet
unit:seats



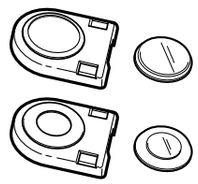
PNR.780-1100 EC-3200Pulse Sensor
unit:sets



PNR.780-1101 EC-3500Pulse Sensor (Long)
unit:sets



PNR.780-1102 EC-3500Pulse Sensor (M)
unit:sets

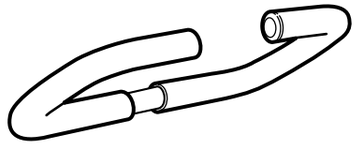


PNR.780-1110 Pulse Sensor Cover Set
unit:sets

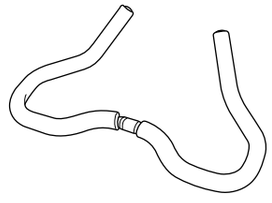
PNR.780-1200 Sensor Clip
unit:pieces

PNR.781-9100 Saddle SD100 SMP1209
unit:sets

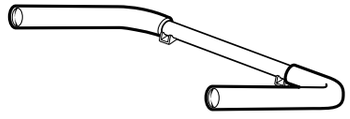
PNR.703-3101 EC-3500Recumbent Seat
unit:sets



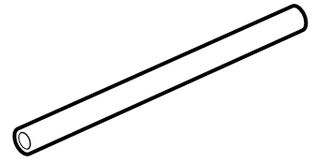
PNR.724-3410 EC-3200Handlebar
unit:pieces



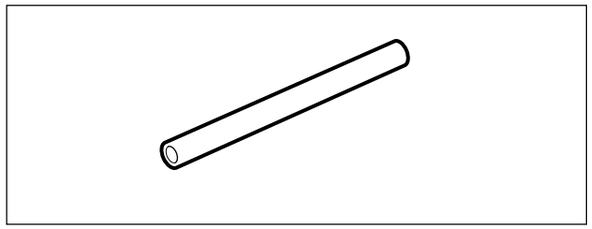
PNR.781-9000 Sporty Handlebar Set EC-HB100
unit:pieces



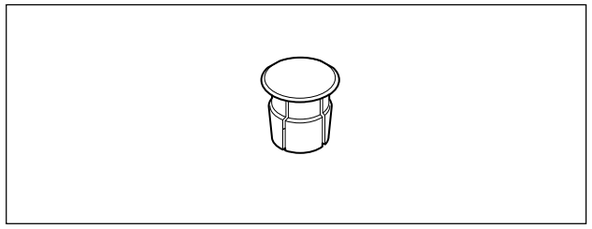
PNR.781-5130 EC-3500Handlebar
unit:pieces



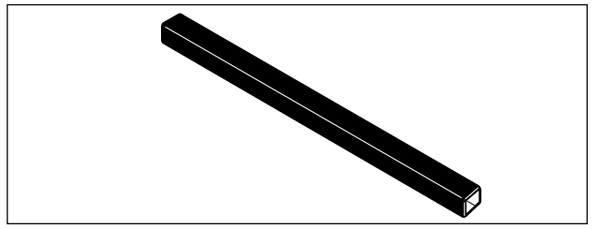
PNR.725-0000 EC-3200Handlebar Grip
unit:pieces



PNR.781-5060 EC-3500Handlebar Grip
unit:pieces



PNR.781-3200 Handlebar Cap
unit:pieces



PNR.780-6630 EC-3200Handlebar Post
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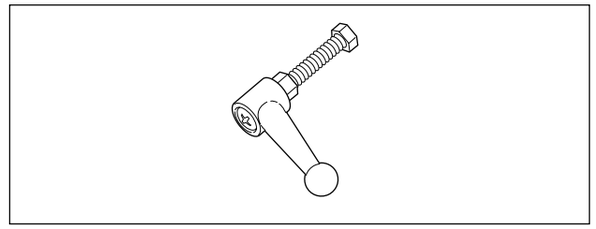
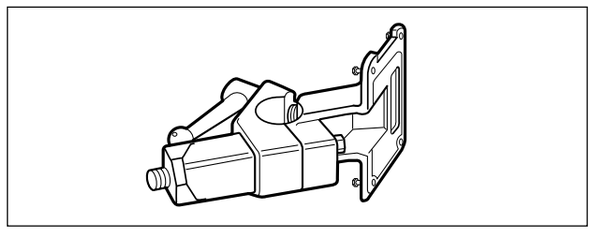
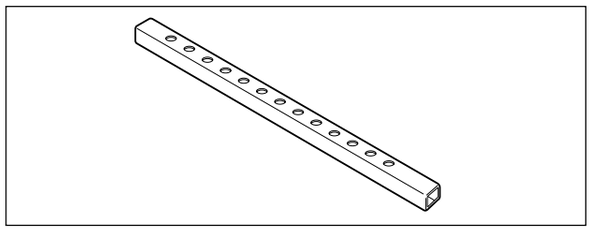


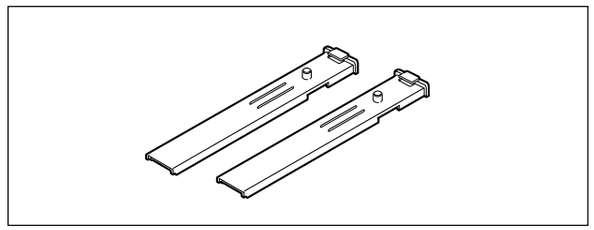
PNR.758-5000 EC-3200Handlebar Lever Set
unit:sets



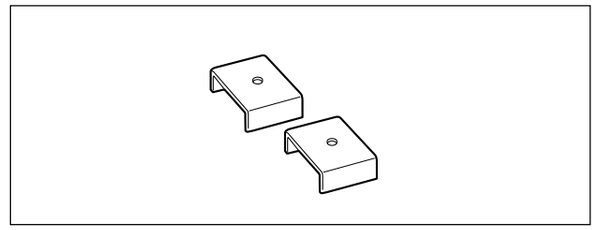
PNR.780-6170 EC-3200Handlebar Stem
unit:sets



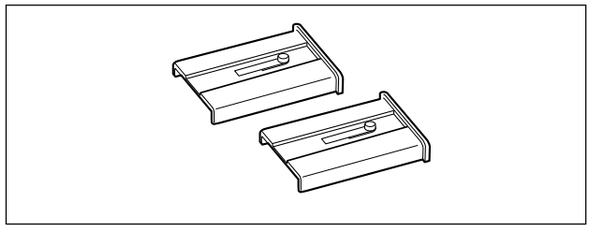
PNR.781-0300 EC-3200Seat Post
unit:pieces



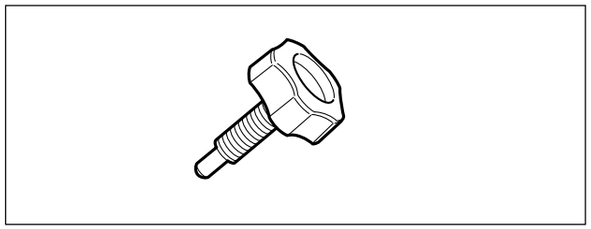
PNR.780-6050 EC-3200Post Spacer Set
unit:sets



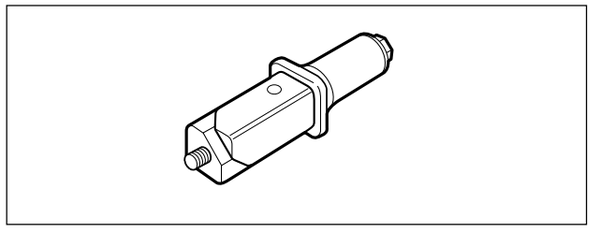
PNR.781-5030 EC-3500Pipe Spacer Set
unit:sets



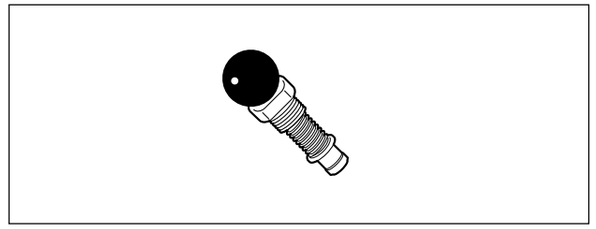
PNR.781-5040 EC-3500Rear Support Pipe Spacer Set
unit:sets



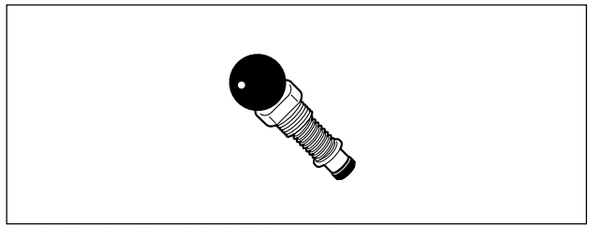
PNR.785-1416 Adjusting Knob/Seat Pipe
unit:pieces



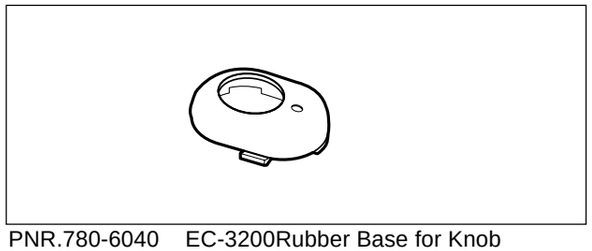
PNR.780-9610 EC-3200Seat Pillar
unit:pieces



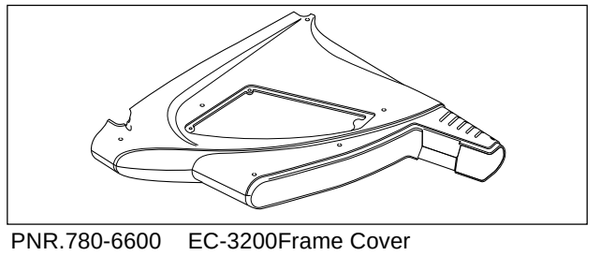
PNR.785-1417 EC-3200Seat Post Knob
unit:pieces



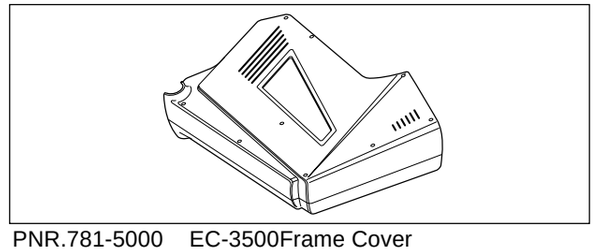
PNR.781-5120 EC-3500Lock Pin
unit:pieces



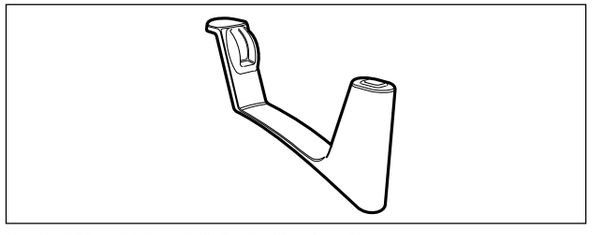
PNR.780-6040 EC-3200Rubber Base for Knob
unit:pieces



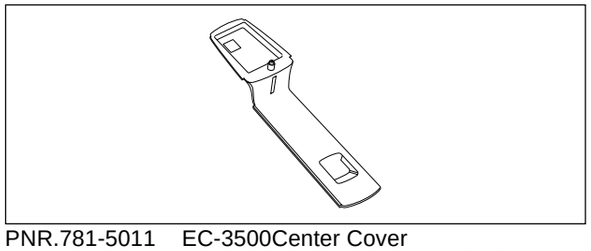
PNR.780-6600 EC-3200Frame Cover
PNR.780-6601 EC-3200Frame Cover Black
unit:sets



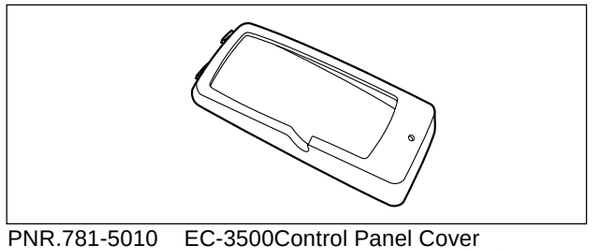
PNR.781-5000 EC-3500Frame Cover
PNR.781-5001 EC-3500Frame Cover Black
unit:sets



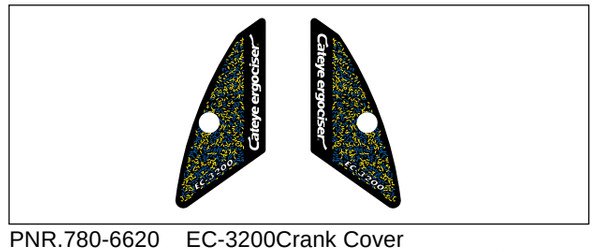
PNR.780-6610 EC-3200Center Cover
unit:pieces



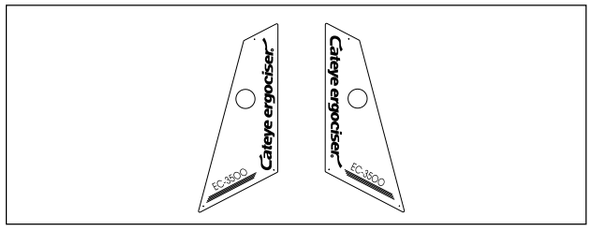
PNR.781-5011 EC-3500Center Cover
unit:pieces



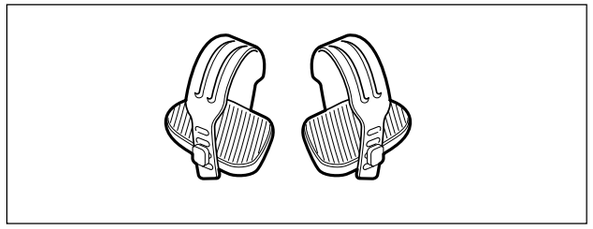
PNR.781-5010 EC-3500Control Panel Cover
unit:pieces



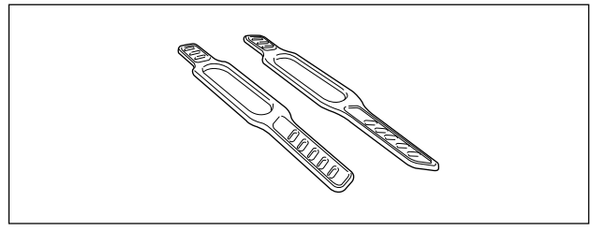
PNR.780-6620 EC-3200Crank Cover
unit:sets



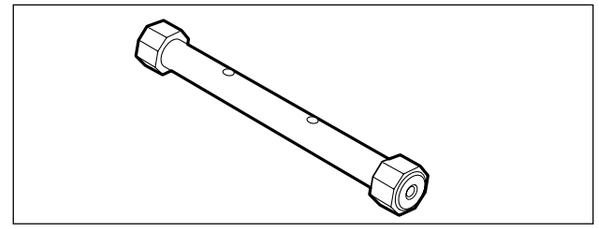
PNR.781-5050 EC-3500Crank Cover
unit:sets



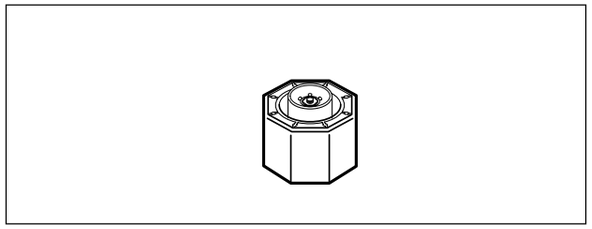
PNR.781-5100 EC Pedal
unit:sets



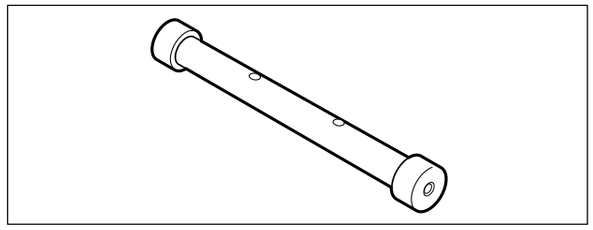
PNR.781-9300 EC Pedal Belt
unit:sets



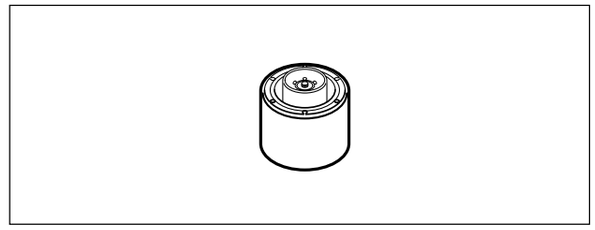
PNR.786-2409 Rear Leg With Level Adjuster
unit:pieces



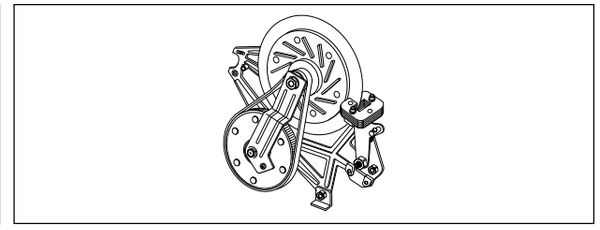
PNR.781-0140 Leveler Set
unit:pieces



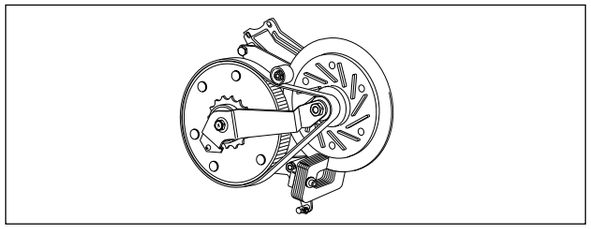
PNR.787-2409 Caster Pipe Set
unit:pieces



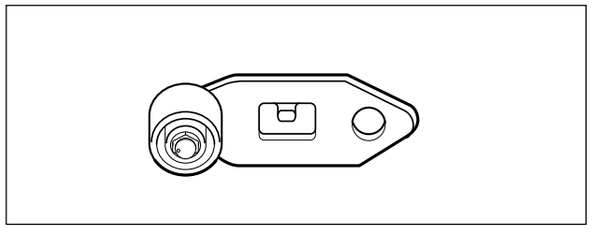
PNR.781-0150 Caster Set
unit:pieces



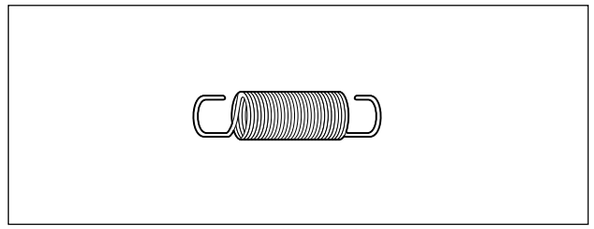
PNR.780-6700 EC-3200Workload Unit
unit:sets



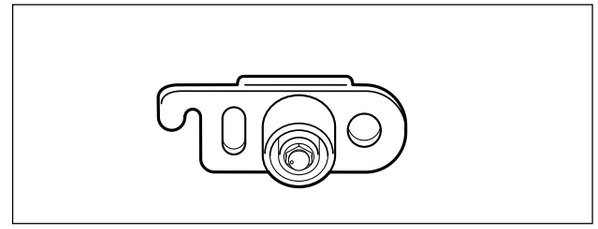
PNR.781-2001 EC-3500Workload Unit
unit:sets



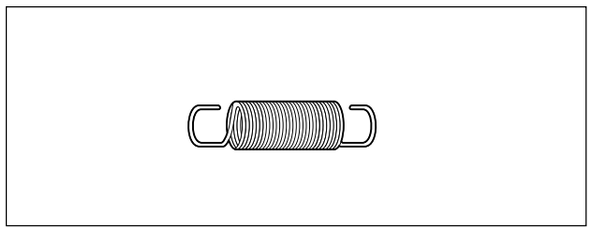
PNR.780-6710 EC-3200Idler Set
unit:sets



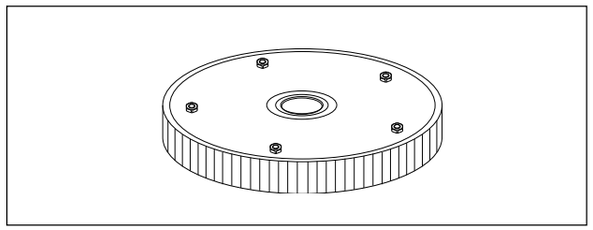
PNR.780-6711 EC-3200Idler Spring
unit:pieces



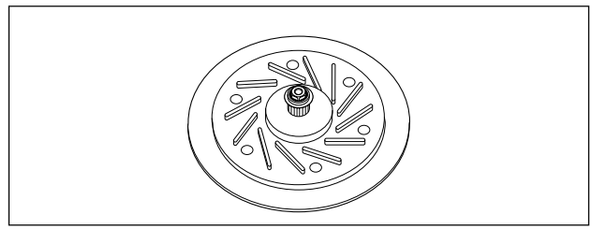
PNR.781-2200 EC-3500Idler Set
unit:sets



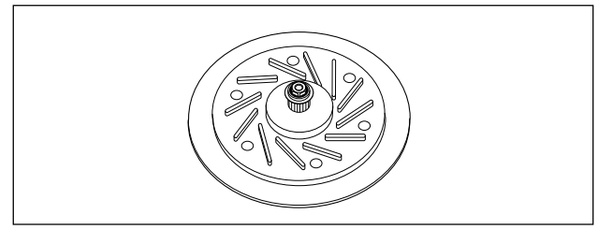
PNR.781-2210 EC-3500Idler Spring
unit:pieces



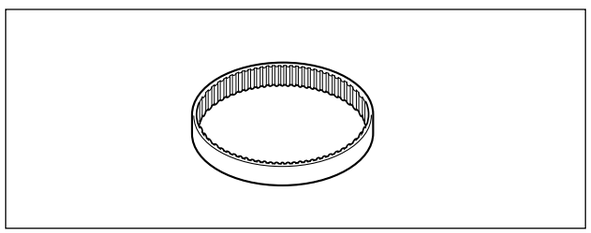
PNR.787-2408 Pulley "A" Set
unit:sets



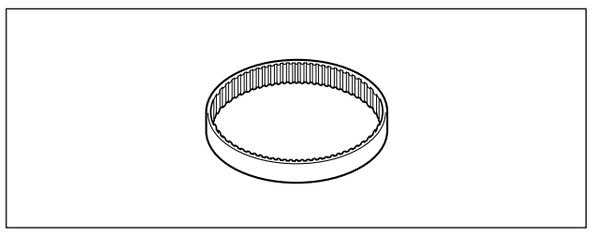
PNR.780-6720 EC-3200Pulley "B" Set
unit:sets



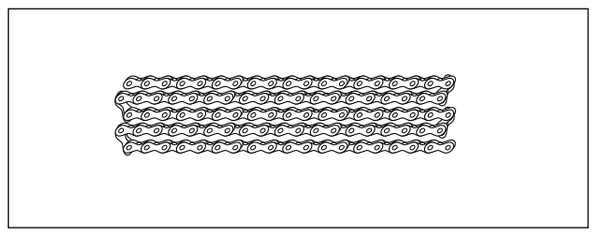
PNR.787-2407 EC-3500Pulley "B" Set
unit:sets



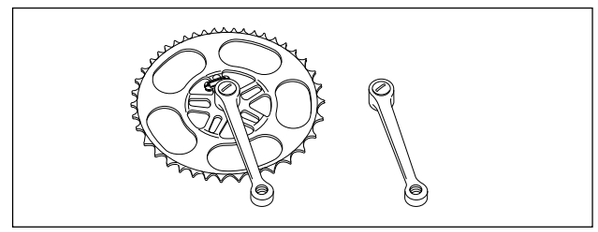
PNR.780-6730 EC-3200Timing Belt
unit:pieces



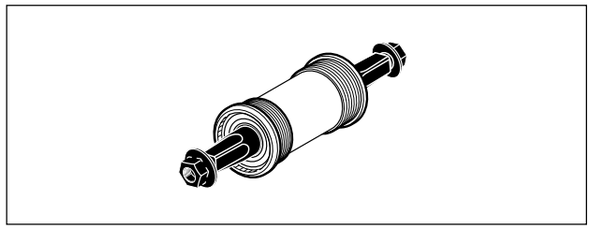
PNR.724-1010 EC-3500Timing Belt
unit:pieces



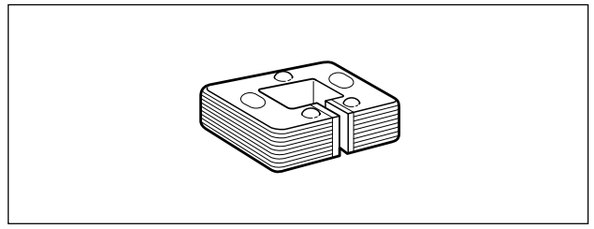
PNR.724-3010 Chain
unit:pieces



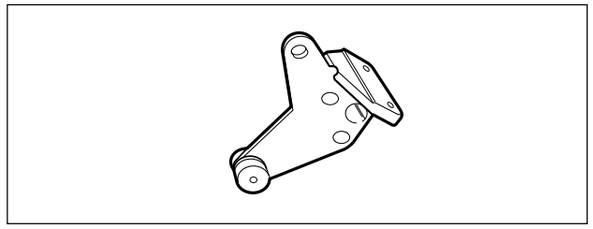
PNR.781-0523 Crank Set
unit:sets



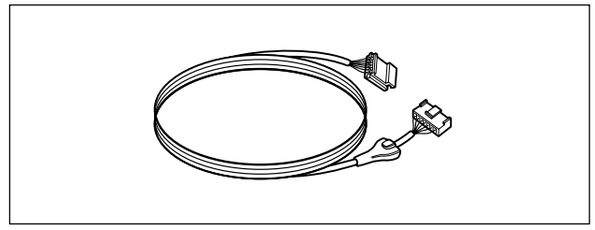
PNR.781-9200 Cartridge BB Set 986A
unit:sets



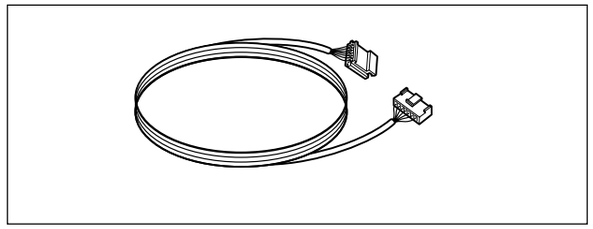
PNR.780-9191 Magnet Set
unit:pieces



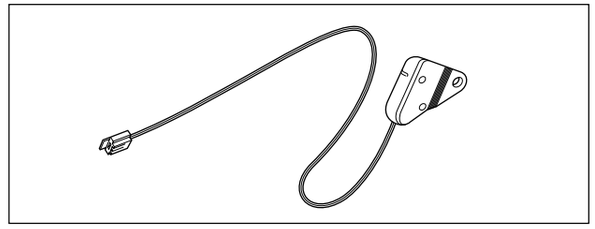
PNR.781-2500 Magnet Mounting Base Set
unit:sets



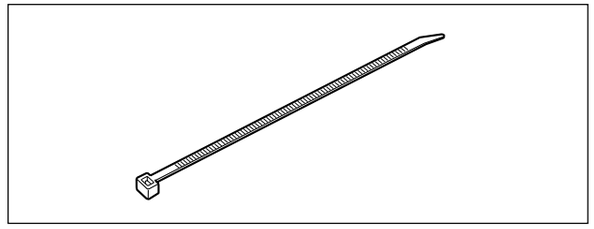
PNR.747-8100 EC-3200 7P Cable Set
unit:sets



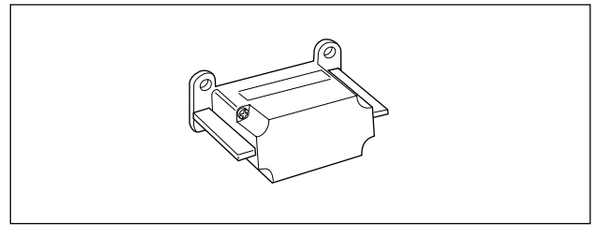
PNR.781-5110 EC-3500 7P Cable Set
unit:sets



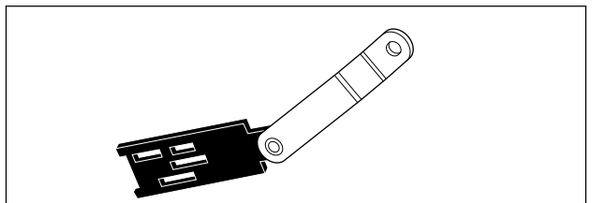
PNR.780-0950 CDC Sensor Set
unit:sets



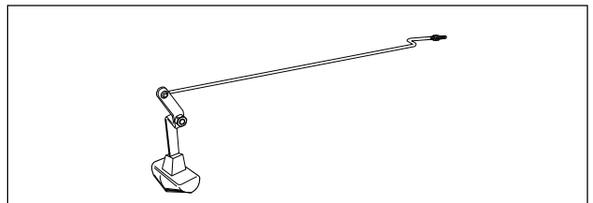
PNR.729-5025 Cable Clip Large (CV250)
unit:pieces



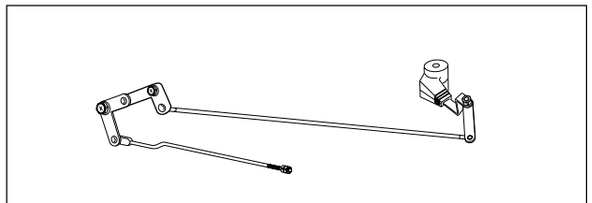
PNR.780-9190 Workload Sensor Set
unit:sets



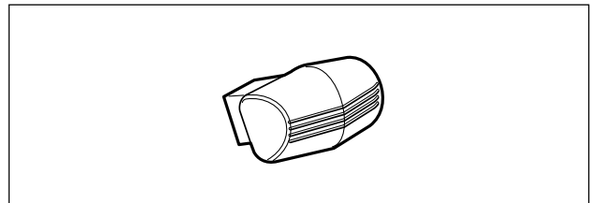
PNR.787-1402 Slit Board Link Set
unit:sets



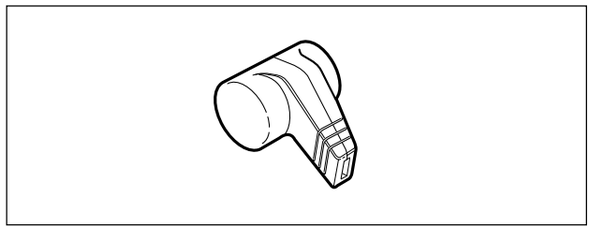
PNR.780-6650 EC-3200Workload Shift Lever Set
unit:sets



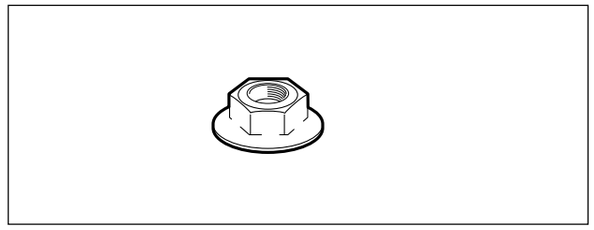
PNR.781-5160 EC-3500Workload Shift Lever Set
unit:sets



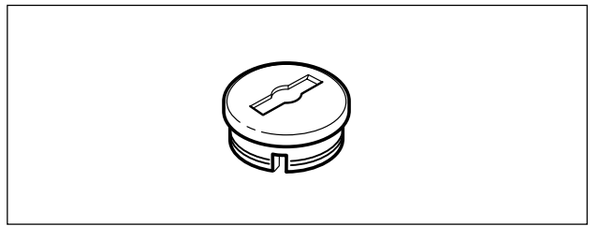
PNR.780-6651 EC-3200Workload Shift Knob
unit:sets



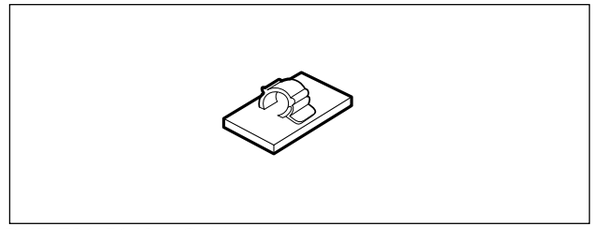
PNR.781-5161 EC-3500Workload Shift Knob
unit:sets



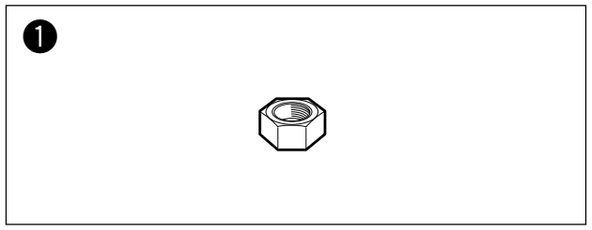
PNR.724-4803 Crank Nut M10x1.25
unit:pieces



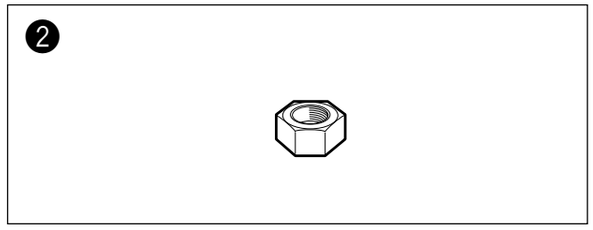
PNR.724-4802 Crank Cap
unit:pieces



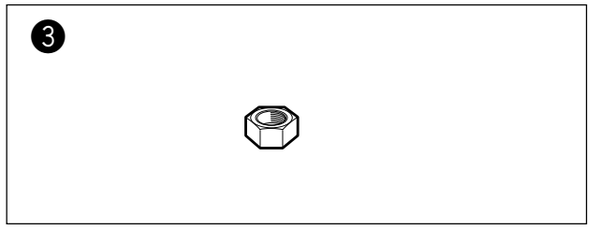
PNR.781-5140 Cable Holder
unit:pieces



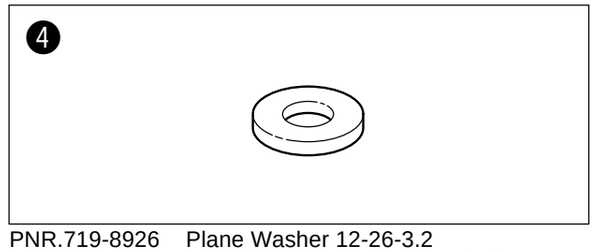
PNR.752-1081 Hexagon Nut M8-1
unit:pieces



PNR.752-1085 Hexagon Nut M8-3
unit:pieces



PNR.752-1061 Hexagon Nut M6-1
unit:pieces



PNR.719-8926 Plane Washer 12-26-3.2
unit:pieces

❺

PNR.753-1816 Plane Wahser 8-15.5-1.6
unit:pieces

❻

PNR.753-2019 Plane Wahser 6-18-2.0
unit:pieces

❼

PNR.753-2017 Plane Wahser 10-18-1.0
unit:pieces

❽

PNR.753-1615 Plane Wahser 6-15-3.2
unit:pieces

❾

PNR.753-1613 Plane Wahser 6-13-1.0
unit:pieces

❿

PNR.723-2080 Thrust Washer 9x15.5x0.25 PBC
unit:pieces

⓫

PNR.753-0800 Spring Washer 8
unit:pieces

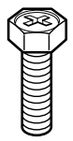
⓬

PNR.753-0600 Spring Washer 6
unit:pieces

⓭

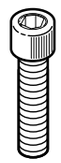
PNR.753-0500 Spring Washer 5
unit:pieces

⓮



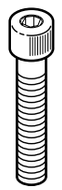
PNR.750-8616 Cross-recessed Head Hexagon Nut M6x16
unit:pieces

⓯



PNR.757-1622 Cap Bolt M6x22
unit:pieces

⓰



PNR.757-1528 Cap Bolt M5x28
unit:pieces

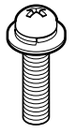
⓱

PNR.750-6810 Seat Post Adjust Screw M8x10
unit:pieces

⓲

PNR.753-5410 Screw Set M4x10
unit:pieces

⓳

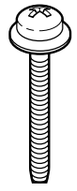


PNR.753-5412 Screw Set M4x12
unit:pieces

⓴

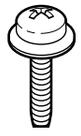
PNR.753-5410 Bolt Set M6x12
unit:pieces

㉑



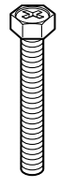
PNR.756-1440 Tapping Screw 4x40 with Washer
(for Frame Cover Mounting)
unit:pieces

㉒



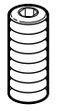
PNR.756-1412 Tapping Screw 4x12 with Washer
(for HandleBar Post Cover Mounting)
unit:pieces

㉓

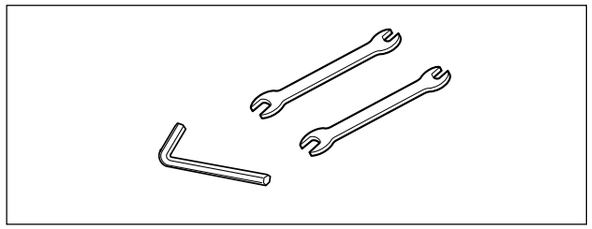


PNR.750-8645 Hexagon Bolt (+) M6x45 SUS
unit:pieces

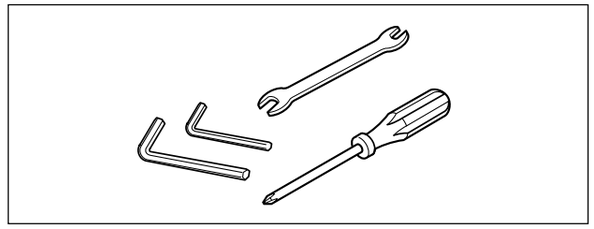
㉔



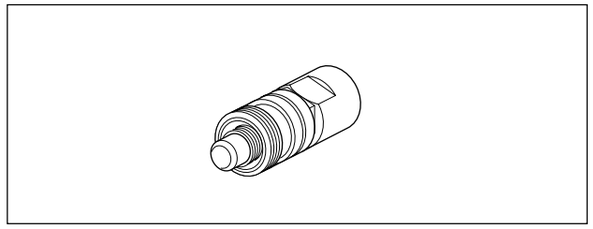
PNR.757-2510 Slotted Head Screw M5x10
unit:pieces



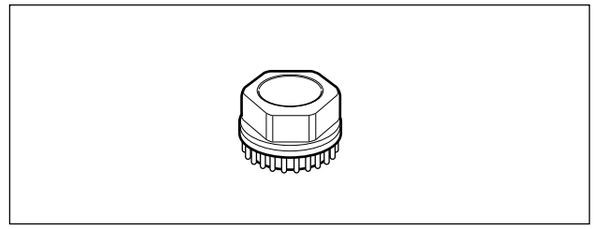
PNR.780-6890 EC-3200Tool Kit
unit:sets



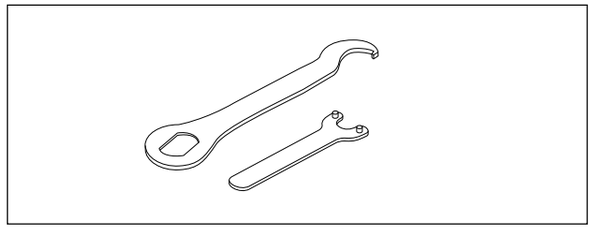
PNR.781-5180 EC-3500Tool Kit
unit:sets



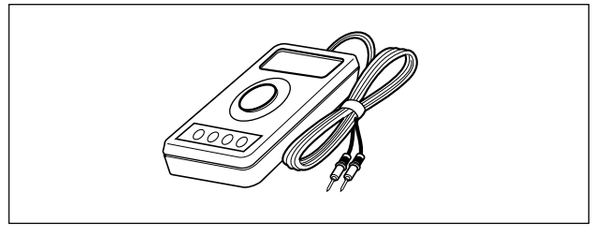
PNR. Cotterless Gear Crank Removing/Fastening
unit:sets



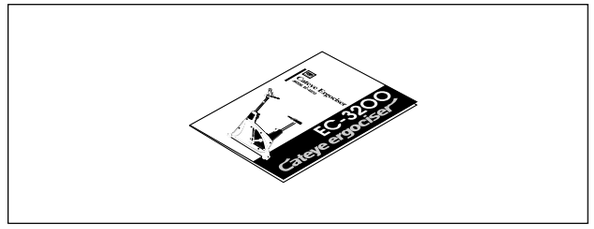
PNR.000-0000 Cartridge BB Removing Tool
unit:sets



PNR.758-1080 Pin Face Wrench
unit:sets



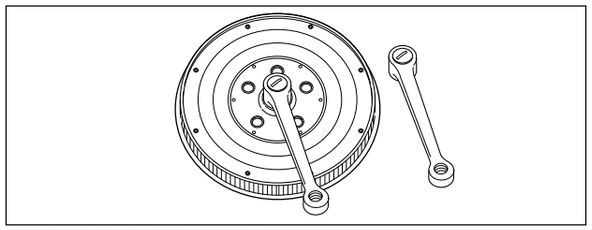
PNR.737-7000 Multimeter
unit:sets



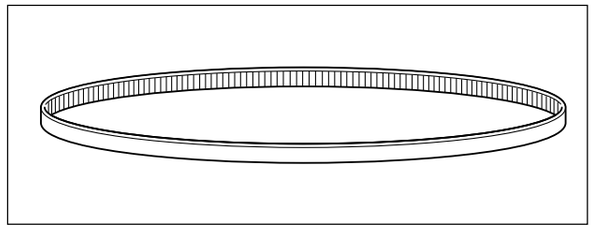
PNR.780-6851 EC-3200 Operating Instructions E(English)
PNR.780-6852 EC-3200 Operating Instructions G(German)
PNR.780-6853 EC-3200 Operating Instructions F(French)
unit:sets

PNR.703-5103 EC-3500 Operating Instructions E(English)
PNR.703-5104 EC-3500 Operating Instructions G(German)
PNR.703-5105 EC-3500 Operating Instructions F(French)
unit:sets

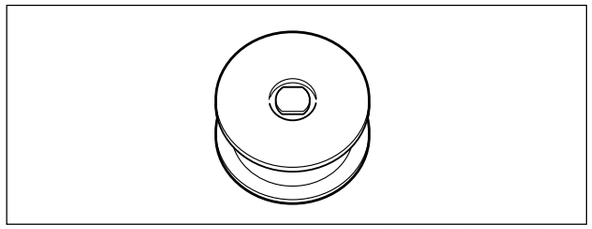
Belt Drive



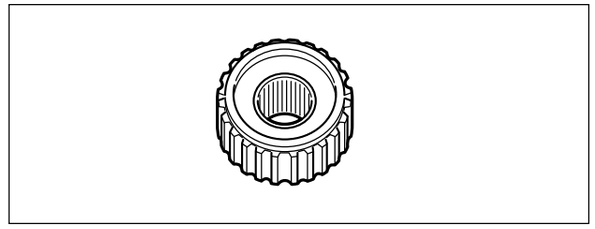
PNR.780-6990 Crank Pulley 1-A
unit:pieces



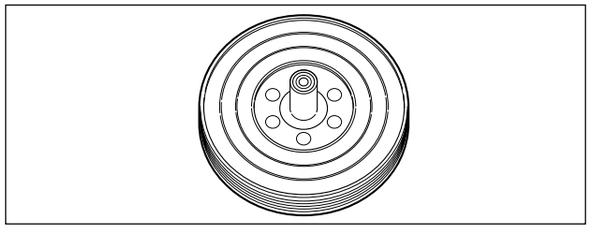
PNR.724-1020 Teethed Timing Belt (PM8x15-896)
unit:pieces



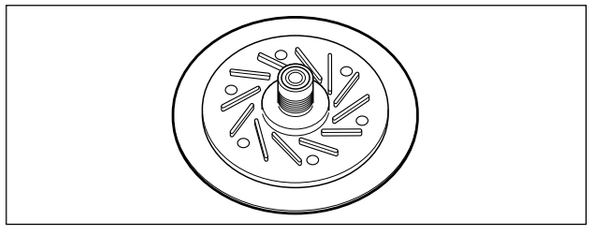
PNR.780-6950 Idler A Set (for Teethed Timing Belt)
unit:set



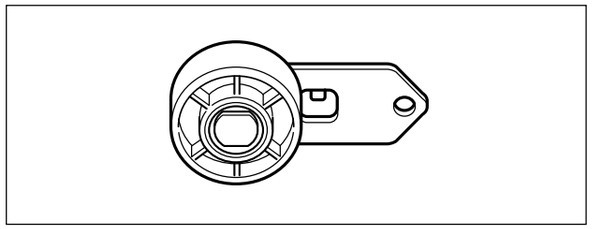
PNR.780-6920 Pulley 1-B (Free Wheeling Pulley)
unit:pieces



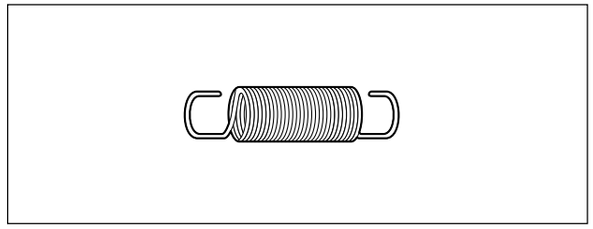
PNR.780-6930 Pulley 2-A (Pulley A for V-ribbed Belt)
unit:pieces



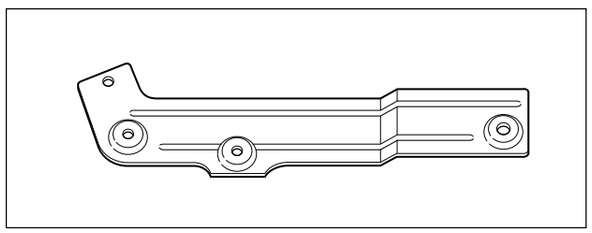
PNR.780-6940 Pulley 2-B (Pulley B for V-ribbed Belt)
unit:pieces



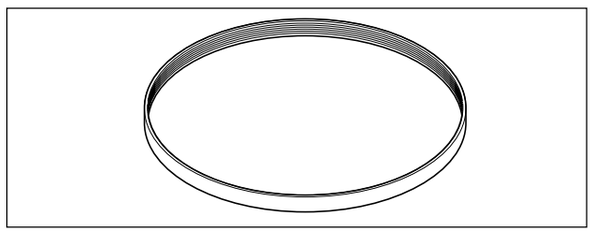
PNR.780-6960 Idler B Set (for V-ribbed Belt)
unit:set



PNR.780-6980 Idler B Spring
unit:pieces



PNR.780-6970 Idler A Reinforcing Plate
unit:pieces



PNR.724-1030 V-ribbed Belt (280-J6)
unit:pieces

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